NOV 13 1961

volume 22
number 10
october 1961

Diseases of the Nervous System

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A Practical Journal on Psychiatry and Neurology

(CONTENTS ON PAGE 534)

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Volume XXII OCTOBER 1961 Number 10

DISEASES *of the* Nervous System

Contents

PRIVATE PSYCHIATRIC PRACTICE SINCE THE END OF WORLD WAR II 547
James L. McCartney
ADOLESCENTS IN DISTRESS 555
Walter Freeman
THE FIFTEEN MINUTE HOUR 559
Arnold J. Mandell
CLINICAL EVALUATION OF CHLORHEXADOL, A NEW HYPNOTIC 562
Oscar Rozett
ON ANXIETY: RELATIONSHIP BETWEEN METHODS OF EVALUATION 565
Ali A. Kawi
ACCELERATING TREATMENT IN DEPRESSED PATIENTS WITH MULTIPLE ANTIDEPRESSANT AGENTS 568
Edwin Dunlop
ASSESSMENT OF A NEW ANTIPARKINSON DRUG (UK-738) IN THE THIOPERAZINE-INDUCED EXTRAPYRAMIDAL REACTION 571
William Mandel, Bessie Claffey, and Lester H. Margolis
COMPARATIVE EFFECTS OF LIBRIUM AND TARACTAN ON BEHAVIOR DISORDERS OF MENTALLY RETARDED CHILDREN 573
T. L. Pilkington
DIMENSIONS OF CHANGE IN PSYCHIATRIC SYMPTOMATOLOGY 576
Donald R. Gorham and John E. Overall
EXPERIENCES IN THE OPERATION OF A GERIATRIC HOSPITAL 581
John F. Gray

EASTERN PSYCHIATRIC RESEARCH ASSOCIATION PROCEEDINGS

PSYCHIATRY IN THE NEAR EAST AND FAR EAST 583
William Holt
ANTI-PSYCHOTIC SPECTRUM OF PROKETAZINE 585
Anthony Sainz
DISCUSSION OF PAPER ON PROKETAZINE 588
James A. Page

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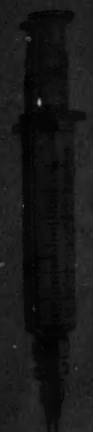

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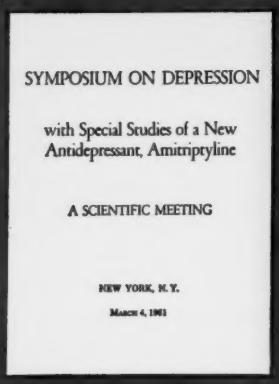
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A SCIENTIFIC MEETING
NEW YORK, N.Y.
March 4, 1961

EXCERPTS FROM A SYMPOSIUM ON DEPRESSION

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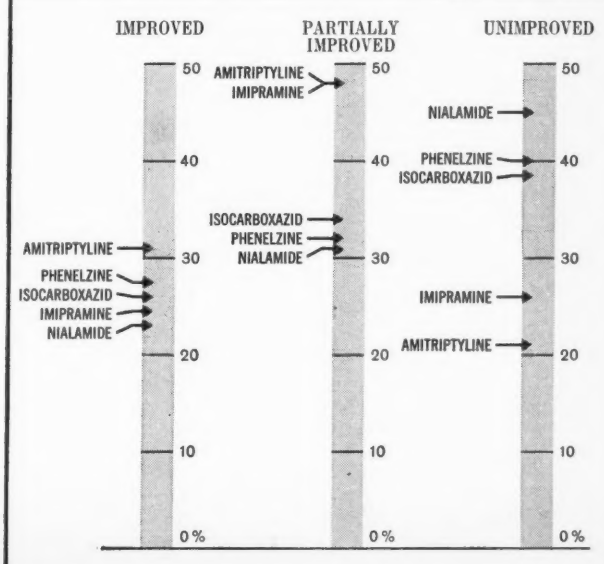
AMITRIPTYLINE HYDROCHLORIDE

INVESTIGATOR	FINDINGS
DUNLOP, EDWIN: The treatment of depression in private practice.	"Amitriptyline [ELAVIL] has a specific advantage over any antidepressant currently available and I see increasing evidence of its usefulness in reducing tension, agitation and anxiety, as well as in relieving the depressive quality of the illness. Amitriptyline appears . . . to combine better than any other antidepressant drug the successful treatment of anxiety at one end of the scale and depression at the other. Experience in the past has shown us that, when using electroshock or analeptics, although depression can be relieved, the accompanying anxiety eventually proves more troublesome than the depressive phase of the illness. Amitriptyline successfully bridges these divergent symptoms which are displayed in varying proportions in all depressive syndromes. ". . . Approximately one hundred and twenty patients have been studied with amitriptyline during the last fifteen months. It is an effective antidepressant when employed in both hospital and ambulatory patients. Its dependability and freedom from toxicity and severe side effects merit further evaluation on a broader spectrum of depressive disorders."
BENNETT, DOUGLAS: Treatment of depressive states with amitriptyline.	"In those cases showing a good response, early and dramatic improvement in sleeplessness resulted and many patients noted a feeling of relaxation. The ability of some patients to reduce their night sedatives after only a month's treatment was unique in my experience of the treatment of depression."
SAUNDERS, JOHN C.: Antidepressives: the pith of affective therapy.	"Its primary action in hospitalized psychotics is antidepressive; this along with its very low rate of side actions make it a drug of potentially frequent application in a broad spectrum of neuropsychiatric diseases. . . . Since a large part of any hospital population will reach a plateau if given only a tranquilizer or an energizer, we suggest that amitriptyline alone be given prior to combination therapy, as this drug is easier and safer to administer and produces a significant improvement in a high percentage of cases (60-75)."
OSTFELD, ADRIAN M.: Effects of an antidepressant drug on tests of mood and perception.	"Finally, it appears that amitriptyline in the doses employed here is relatively effective in depressed states of neurotic proportions. Its freedom from severe side effects in doses that are therapeutically effective seems established in this patient population."

(This symposium was published in Diseases of the Nervous System, Volume 22, Section Two — Supplement, May 1961)

INVESTIGATOR	FINDINGS
AYD, FRANK J., JR.: A critique of antidepressants.	"Amitriptyline and imipramine induce similar side effects but, generally speaking, those of amitriptyline cause less subjective discomfort in patients than those of imipramine. "... Many of the factors that favor a satisfactory response to these drugs are also those clinically associated with the expectation of a good reaction to ECT. The danger lies in their general slowness in taking effect which makes their use hazardous for severely depressed suicidal patients who, preferably, should be treated with electroshock therapy. Otherwise, these compounds can be a satisfactory substitute for shock therapy for most depressed patients. Thus, these drugs have lessened the need for ECT. On those occasions when ECT is necessary, if the shock therapy is combined with an antidepressant, ECT can be dispensed with after a few treatments."

COMPARISON OF THERAPEUTIC RESULTS WITH VARIOUS ANTIDEPRESSANTS



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INVESTIGATOR	FINDINGS
DORFMAN, WILFRED: Masked depression.	"In evaluating the effectiveness of amitriptyline in all these different settings, it was considered to be effective in 17 of the 25 patients (68%)."
FELDMAN, PAUL E.: Psychotherapy and chemotherapy (amitriptyline) of anergic states.	"Compared to other energizer compounds, particularly the hydrazines, amitriptyline appears to be relatively nontoxic. The laboratory reports for the most part remained within normal limits. Occasionally, abnormal readings were reported, but these appeared only sporadically and were not related to any clinical findings."

INDICATIONS: manic-depressive reaction—depressed phase; involutional melancholia; reactive depression; schizoaffective depression; neurotic-depressive reaction; and these target symptoms: anxiety; depressed mood; insomnia; psychomotor retardation; functional somatic complaints; loss of interest; feelings of guilt; anorexia. May be used whether the emotional difficulty is a manifestation of neurosis or psychosis,[1] and in ambulatory or hospitalized patients.[1,2,3]

USUAL ADULT DOSAGE: Tablets—initial dosage 25 to 50 mg. three times a day, depending on body weight, severity, and clinical disturbances. Dosage may be adjusted up or down depending upon the response of the patient. Some patients improve rapidly, although many depressed patients require four to six weeks of therapy before obtaining antidepressant response. For the ambulatory patient the dosage range for Tablets ELAVIL is 40 to 150 mg. daily. In the hospitalized patient, a daily dosage up to 300 mg. may be required. Injection ELAVIL may be given IM to rapidly calm depressed patients with symptoms of anxiety and tension while instituting therapy of the underlying depression. Initial therapy is 2 to 3 cc. (20 to 30 mg.) IM, q.i.d.

The natural course of depression is often many months in duration. Accordingly, it is appropriate to continue maintenance therapy for at least three months after the patient has achieved satisfactory improvement in order to lessen the possibility of relapse, which may occur if the patient's depressive cycle is not complete. In the event of relapse, therapy with ELAVIL may be reinstituted.

ELAVIL is not a monoamine oxidase (MAO) inhibitor, it does, however, augment or may even potentiate the action of MAO inhibitors. Thus, in patients who have been receiving MAO inhibitors, ELAVIL should be instituted cautiously after the effects of the MAO inhibitors have been dissipated. No evidence of drug-induced jaundice, agranulocytosis, or extrapyramidal symptoms has been noted. Side effects with ELAVIL are seldom a problem and are not serious. They are dosage-related and have been readily reversible. Side effects (drowsiness, dizziness, nausea, excitement, hypotension, fine tremor, jitteriness, headache, heartburn, anorexia, increased perspiration, and skin rash), when they occur, are usually mild. However, as with all new therapeutic agents, careful observation of patients is recommended. As with other drugs possessing significant anticholinergic activity, ELAVIL is contraindicated in patients with glaucoma, prostatic hypertrophy, and urinary retention.

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Bibliography *(11 clinical studies, 764 patients):*
1. Alexander, L. (35 patients): Chemotherapy of depression—Use of meprobamate combined with benactyzine (2-diethylaminoethyl benzilate) hydrochloride. J.A.M.A. 166:1019, March 1, 1958. **2.** Bateman, J. C. and Carlton, H. N. (50 patients): Meprobamate and benactyzine hydrochloride (Deprol) as adjunctive therapy for patients with advanced cancer. Antibiotic Med. & Clin. Therapy 6:648, Nov. 1959. **3.** Bell, J. L., Tauber, H., Santy, A. and Pulito, F. (77 patients): Treatment of depressive states in office practice. Dis. Nerv. System 20:263, June 1959. **4.** Breitner, C. (31 patients): On mental depressions. Dis. Nerv. System 20:142, (Section Two), May 1959. **5.** Landman, M. E. (50 patients): Choosing the right drug for the patient. Submitted for publication, 1960. **6.** McClure, C. W., Papas, P. N., Speare, G. S., Palmer, E., Slattery, J. J., Konefal, S. H., Henken, B. S., Wood, C. A. and Ceresia, G. B. (128 patients): Treatment of depression—New technics and therapy. Am. Pract. & Digest Treat. 10:1525, Sept. 1959. **7.** Pennington, V. M. (135 patients): Meprobamate-benactyzine (Deprol) in the treatment of chronic brain syndrome, schizophrenia and senility. J. Am. Geriatrics Soc. 7:656, Aug. 1959. **8.** Rickels, K. and Ewing, J. H. (35 patients): Deprol in depressive conditions. Dis. Nerv. System 20:364, (Section One), Aug. 1959. **9.** Ruchwarger, A. (87 patients): Use of Deprol (meprobamate combined with benactyzine hydrochloride) in the office treatment of depression. M. Ann. District of Columbia 28:438, Aug. 1959. **10.** Settel, E. (52 patients): Treatment of depression in the elderly with a meprobamate-benactyzine hydrochloride combination (Deprol). Antibiotic Med. & Clin. Therapy 7:28, Jan. 1960. **11.** Splitter, S. R. (84 patients): The care of the anxious and the depressed. Submitted for publication, 1959.

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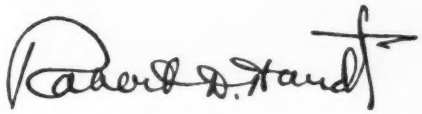

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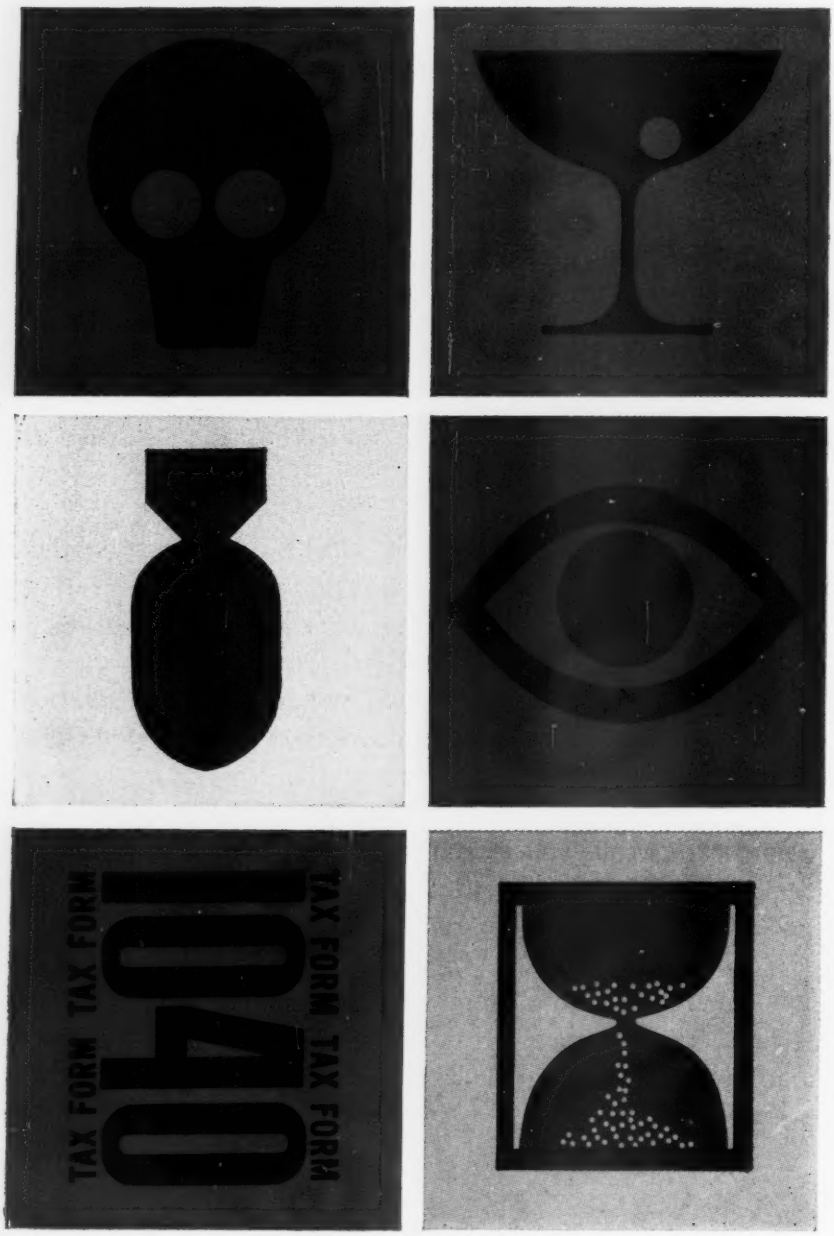

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References:

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Volume XXII OCTOBER 1961 Number 10

DISEASES *of the* Nervous System

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

Private Psychiatric Practice Since the End of World War II

JAMES L. McCARTNEY, M.D.

During the fifteen years from 1945 to 1960, 5,675 patients have been referred for neuropsychiatric diagnosis and treatment. During this same period the population of Nassau County, New York, increased from 267,000 to 1,850,000 (693% increase). In 1945 there were 547 practicing physicians in the County and only three qualified psychiatrists. During these 15 years, the practicing physicians have only increased to 1,650, from one every 488 of population to one every 1,121; but the number of psychiatrists has increased to 130, an increase of from one every 89,000 population to one every 14,230. Of the 130 psychiatrists, 42 per cent list themselves as doing psychoanalysis, although only three per cent limit practice to psychoanalysis; 32 per cent emphasize work with children and adolescents; 10 per cent do group therapy, and three per cent state that they use hypnotherapy; only 10 per cent state they are qualified to do neurology, and 24 per cent do shock therapy.

Nassau County is a suburban district on Long Island, extending from the eastern boundary of New York City for about 16 miles, and covering 274 square miles. A high percentage of the residents commute to New York City to work. My office is almost in the center of the county and is about equidistant from Long Island Sound on the north and the Atlantic Ocean on the south. The county is divided into three townships and has two cities, 64 villages, and 61 lesser communities. It has had the fastest growing population in America since World War II and almost every area is built up. A network of parkways, the Long Island Railroad, and bus lines make Garden City easily accessible. Therefore, my referrals have come from every part of the county and even from the neighboring counties. There are 18 general hospitals in the county, but only three of these have facilities for psychiatric cases, with a total of less than a hundred beds. The 600-bed County Hospital at first had 12 psychiatric beds, then increased to 52 beds, and now plans to increase to 70. Mercy Hospital took care of 25 psychiatric patients in 1960, and the North Shore Hospital plans to open 16 psychiatric beds. There is only one, 20-bed, private psychiatric hospital in the county, but immediately outside the county borders there are three private psychiatric hospitals, four large State Hospitals, and one large Veterans Psychiatric Facility.

Referrals

In the first five years, physicians referred 82 per cent of all the patients; the Veterans Administration, 3.4 per cent; the clergy, 0.6 per cent; schools, 6.8 per cent; attorneys, 0.9 per cent; and courts, 3.3 per cent. Only 3 per cent were self-referred. By the end of the fifteen years, the referrals were as follows: physicians, 48.7 per cent; dentists, 0.2 per cent; Social Security, 16.3 per cent; the clergy, 1 per cent; attorneys, 2.1 per cent; courts, 0.2 per cent; and self-referred, 31.5 per cent.

Of the referring physicians, 75.5 per cent were general practitioners, 7.5 per cent were psychiatrists, 3.8 per cent were internists, 2.1 per cent were pediatricians, 3.4 per cent were general surgeons, 1.7 per cent were orthopedists, 3.4 per cent were obstetricians and gynecologists, 0.8 per cent were GU specialists, and the balance of 1.8 per cent were other specialists.

It was evident that during the second year (1947) the large number of patients was due to veterans, since the Veterans Administra-

TABLE I

Number Referred Each Year

1946—418	1951—444	1956—347
1947—672	1952—468	1957—318
1948—358	1953—365	1958—333
1949—408	1954—296	1959—353
1950—288	1955—343	1960—280

TABLE II

Percentage of Referrals for Each Month

January	10.56	May	9.41	September	7.76
February	6.42	June	8.09	October	8.25
March	9.57	July	7.76	November	8.25
April	8.58	August	7.76	December	7.59

tion had not yet set up psychiatric clinics, and the number of psychiatrists in the county was far below the number required to care for the demand. It was in 1947 that I felt that an organization of psychiatrists should be established in order to facilitate the psychiatric work in the county. The 12 psychiatrists practicing in this area were invited to meet on March 23, 1948, and the Nassau Neuropsychiatric Society was established. This later became the Third District Branch of the American Psychiatric Association. Shortly after, the Veterans Administration established its own facilities, and from there on most veterans who were under my care were referred by other physicians, or were self-referred.

At the beginning, since there was a shortage of psychiatrists, the local courts made greater demand on my time than they did in the later years. Also, during the last five years the county jail and children's shelter were moved a distance away, and too much travel time was consumed in making such examinations, so such referrals were discouraged unless the subject was brought to the office.

In the first five years, the patients were referred primarily for treatment, or because the physician wanted to get rid of a chronic problem; while in the last five years, more cases were referred on a consultation basis and primarily for diagnosis. The result was that 35 per cent of the cases were referred for consultation alone. Since this practice has been neuropsychiatric, many of the cases referred had organic pathology, and a complete neurological examination was done on 12 per cent of the cases. An electroencephalogram could have routinely been done, but because of the expense to the patient it was only done on 3 per cent of the cases. This was usually to confirm the diagnosis of either epilepsy or other cerebral pathology. In the first three years, many of the veterans were referred for diagnosis, and in the last three years, the New York State Department of Social Welfare referred cases on a consultation basis in order to determine the eligibility for disability payments under Social Security.

Every psychiatrist is aware that often referred patients do not appear for the initial appointment, and over the years, 7 per cent of the cases have not kept their initial appointment, although most of these cases appeared later.

The over-all average of patients referred was 44.95 per cent males, and 55.05 per cent females. There was some significance in the monthly referrals.

TABLE III

Sex of Referrals, Percentage Each Month

Month	M	F	Month	M	F
January	39.1	60.9	July	44.7	55.3
February	38.5	61.5	August	53.2	46.8
March	53.4	46.6	September	42.6	57.4
April	57.7	42.3	October	46.0	54.0
May	42.1	57.9	November	40.0	60.0
June	40.8	59.2	December	41.3	58.7

TABLE IV

Ages of All Referrals

	%		%
1–10	2	31–40	21
11–15	5	41–50	17
16–20	6	51–60	17
21–30	17	61 up	15

Over the 15 years, 8 physicians, 20 physicians' wives, and 12 physicians' children have been under my psychiatric treatment. Of all the referrals, 11.6 per cent were professionals, 16.7 per cent were in business and administration, 12.2 per cent were students, 28.9 per cent were housewives, 21.1 per cent were in trades, and 9.5 per cent were laborers.

In 1946 the religious denominations of the individuals referred were 59 per cent Protestant, 39 per cent Roman Catholic, and 2 per cent Hebrew. At the end of the 15-year period, the referrals were 44 per cent Protestant, 48 per cent Roman Catholic, and 8 per cent Hebrew, although there had been an increase in the number of psychiatrists in the county of Hebrew and Roman Catholic backgrounds. During the last few years, patients of Roman Catholic background have stated that they were advised to go to a psychiatrist of Roman Catholic persuasion, and frequently at the time of referral, the patient inquired as to my religious background after he had selected me because of my name. Although I am a Protestant, at different times I have had assistants of Protestant, Roman Catholic, and Hebrew background, but it was evident that once the pa-

TABLE V

	Diagnoses - Percentage for the Month and Year													
	Anxiety	Depression	Conversion	Obs.-Compul.	Psychopath.	Manic-Dep.	Schizophr.	Arteriosc. Senile	Toxic	Ment. Def.	Epilepsy	Organic	Accid. Inj.	Normal
Jan.	15.7 9.7	9.3 6.8	9.3 12.8	14.2 16.6	11.0 14.5	4.6 15.0	20.4 9.2	6.3 16.7	0.0 0.0	3.1 33.3	3.1 12.5	1.5 2.7	1.5 12.5	0.0 0.0
Feb.	23.2 8.7	10.3 4.6	7.7 6.4	10.3 7.4	12.9 10.4	2.5 5.0	12.9 3.6	7.6 12.6	0.0 0.0	5.1 33.3	0.0 0.0	2.5 2.7	2.5 12.5	2.5 12.5
March	17.3 9.6	10.4 6.8	3.4 4.3	13.8 14.8	10.4 12.5	3.4 10.0	25.9 10.8	0.0 0.0	0.0 0.0	0.0 0.0	3.4 12.5	6.9 10.9	1.8 12.5	3.4 25.0
April	25.0 12.5	13.5 7.9	3.8 4.3	9.7 9.2	7.6 8.3	0.0 0.0	23.1 8.5	9.6 20.8	0.0 0.0	1.9 16.7	1.9 6.3	3.8 5.4	0.0 0.0	0.0 0.0
May	14.0 7.7	8.8 5.7	12.5 14.8	5.2 5.6	10.5 12.5	0.0 0.0	28.2 11.4	1.7 4.1	1.7 16.7	0.0 0.0	5.2 18.6	10.5 16.2	0.0 0.0	1.7 12.5
June	22.5 10.6	18.4 10.3	6.2 6.4	6.1 5.6	4.1 4.2	4.1 10.0	22.5 7.9	2.0 4.1	6.1 50.0	0.0 0.0	0.0 0.0	6.1 8.1	0.0 0.0	2.0 12.5
July	14.9 6.7	17.0 9.1	6.4 6.4	6.4 5.6	2.1 2.1	0.0 0.0	31.9 10.8	2.1 4.1	0.0 0.0	2.1 16.7	2.1 6.3	10.7 13.5	4.3 25.0	0.0 0.0
Aug.	8.5 3.8	14.9 7.9	8.6 8.5	2.1 1.9	6.4 6.3	4.2 10.0	34.1 11.4	2.1 4.1	0.0 0.0	0.0 0.0	4.2 12.5	10.5 13.5	0.0 0.0	4.2 25.0
Sept.	19.2 8.7	25.6 13.6	6.3 6.4	12.8 11.1	6.3 6.3	2.1 5.0	17.2 5.7	4.2 8.3	0.0 0.0	0.0 0.0	0.0 0.0	6.3 8.1	0.0 0.0	0.0 0.0
Oct.	14.0 6.7	24.0 13.6	4.0 4.2	6.0 5.6	8.0 8.3	6.0 15.0	18.0 6.4	6.0 12.6	0.0 0.0	0.0 0.0	4.0 12.5	6.0 8.1	2.0 12.5	2.0 12.5
Nov.	22.0 10.6	8.0 4.6	14.0 14.9	4.0 3.7	10.0 10.4	8.0 20.0	22.0 7.9	0.0 0.0	2.0 16.7	0.0 0.0	4.0 12.5	2.0 2.7	4.0 25.0	0.0 0.0
Dec.	10.8 4.8	17.5 9.1	10.8 10.6	15.3 12.9	4.3 4.2	4.3 10.0	19.8 6.4	6.5 12.6	2.1 16.7	0.0 0.0	2.1 6.3	6.5 8.1	0.0 0.0	0.0 0.0
Tot. %	17.1	14.5	7.8	8.9	7.9	3.3	23.1	4.0	0.9	0.9	2.6	6.1	1.3	1.3

tient entered therapy, the matter of religious background had little or no effect on the progress of treatment. Over the 15 years, there were only five Negroes, and 15 Chinese.

Diagnoses

There is significance in the percentage of referrals in each diagnosis per month.

The breakdown of the diagnoses made on these patients has somewhat changed over the years. This change is shown in the following table of percentages for the first five years and for the last five years.

TABLE VI

Diagnosis	1945-1950	1955-1960
Anxiety Reaction	38.5	16.7
Depressive Reaction	11.0	14.8
Conversion Reaction	11.5	9.0
Obsessive - Compulsive Reaction	5.5	9.0
Psychopathic Personality	3.5	8.3
Manic-Depressive Reaction	6.5	3.4
Schizophrenic Reaction	16.0	22.4
Senile and Arteriosclerotic Psychoses	1.5	3.9
Toxic Reaction (Alcohol, Drugs)	2.5	1.1
Mental Deficiency	0.5	1.1
Epilepsy	1.0	2.8
Organic (Tumors, Encephalitis)	0.5	5.3
Accidental Injury	1.5	0.9
Normal	0.0	1.3

Therapy

Although this practice has been oriented to psychoanalysis, it was essentially eclectic, and after the diagnosis was made, the treatment was fitted to the patient, rather than the patient fitted to the treatment. Some patients were referred for a specific form of therapy, and although I have always worked closely with the referring physician, I always reserved the right to decide on the treatment that I felt would be most effective. Where, in a few cases, the referring physician had pre-determined the treatment and had remained adamant, I sent the patient back to him for his disposition. All diagnoses and recommendations were sent to the referring physician, if possible, the same day the patient was received, and regular reports were sent to the referring physician if the patient was continued under treatment.

Shock Therapy

During the 12 years, 1947 through 1958, shock therapy was extensively used, but, during the last five years, since the introduction of the ataractic and cerebral-stimulating drugs, there has been a definite change in psychiatric technic. As shown by the following figures, shock therapy has shown a rise and fall in my practice. This has been true in not only the number of patients requiring shock therapy, but also in the number of treatments required to gain the desired result in each patient.

TABLE VII

Shock Treatments Given (7,929) by Year

1946— 89	1951—677	1956—584
1947—361	1952—833	1957—315
1948—716	1953—561	1958—362
1949—775	1954—647	1959—168
1950—984	1955—658	1960—199

While in the beginning, shock treatment was given to most depressed patients, in the last few years only patients who had not responded to medications were given this treatment. In many cases, these individuals had been under the care of general practitioners who had tried out various drugs and had finally referred the patient. Therefore, when patients arrived in the psychiatrist's office, they were not willing to continue further medication and requested shock therapy. In many cases, three or four treatments were all that were necessary to relieve the extreme depression, or get over suicidal ideas, and they could then be carried on with medication or psychotherapy.

Of the first one thousand patients treated with electroshock therapy (electroconvulsive therapy, electronarcosis, or minimum stimulus), 86 per cent recovered, 10 per cent discontinued treatment against advice, and 4 per cent were not helped by the treatment. One man and two women, who were poor risks, died of heart failure during electroconvulsive therapy. Three patients, while under treatment, committed suicide. Four had spinal compression fractures, and two had fractures of the anatomical neck of the humerus.

TABLE VIII

Average Number EST's Required

Affective Reactions	11
Schizophrenic Reactions	13
Cerebral Arteriosclerotic Psychoses	9
Senile Psychoses	7
Anxiety Reactions	6
Conversion Reactions	5
Obsessive-Compulsive Reactions	4
Depressive Reactions	6

An interesting aspect of shock therapy was the observation that schizophrenic persons show cyanosis during the convulsion, while the non-schizophrenics are apt not to so react. A prior diagnosis was found in error if cyanosis appeared and the diagnosis of schizophrenic reaction had not been made.

Psychotherapy

In analyzing the initial interviews, it was found that short term psychotherapy (less than 30 hours), was recommended in 32 per cent of the cases. This was usually on an authoritarian basis. Although I have used hypnosis for over 40 years, it was generally only used as a temporary measure and was not recommended as a therapy within itself. During the last five years, there has been a great resurgence of hypnotherapy, and much publicity has been given to this subject. Consequently, it was not infrequent during the last two years that patients requested this therapy to the exclusion of all others. While in the first five years, hypnosis was only used in one per cent of cases, in the last two years it has been applied in two per cent. The number of hypnotic treatments applied to each patient ranged from one to fifty.

Of those carrying on in short term therapy, they spent on the average of 17 hours over a period of one to 24 months, the minimum being 11 hours, and the maximum, 27 hours.

Psychoanalysis

Throughout these 15 years, psychoanalysis or psychoanalytic psychotherapy has been standard procedure and has taken up the greater part of my time. Of all cases referred, only 26 per cent were advised to go into psychoanalysis and followed through with such treatment. During my 36 years of psychiatric practice, it has been a criterion that any patient who spent less than 30 hours in therapy had not gone into analysis, as it was found that on the average, about 30 hours were required to establish a firm transference.

In those going into psychoanalysis, the time spent averaged 89 hours, the minimum number of hours being 30 during 8 months, and the maximum number of hours being 309 during 70 months. This was not consistent as in exceptional cases only 70 hours were spent in 159 months, the longest period of therapy.

In the beginning of the 15 years, I practiced 60 hours or more a week, but in the last five years, I have limited myself to 44 hours. Of this week, 59 per cent of my time has been spent in analytic hours. These analytic cases necessarily are continued from year to year, and consequently at the beginning of each year, many cases were carried over. There were also cases from previous years who returned for treatment.

TABLE IX

Per Cent of Continuance or Return

January	51.21	July	6.43
February	5.63	August	4.29
March	2.14	September	4.02
April	4.83	October	4.30
May	6.43	November	1.34
June	7.77	December	1.61

It is difficult to evaluate in general terms the success of psychoanalytic treatment, but just as patients who receive medication or shock therapy may relapse after a period of months or years, so patients who have been under psychoanalysis have discontinued and then returned some months later to resume treatment. The question always arises as to whether one can say that any psychiatric patient is permanently cured or stabilized, but certainly over these 15 years the majority of the patients has made an adjustment which was satisfactory to themselves and their environments. Of the 1,479 persons undergoing psychoanalysis, 75 per cent made such an adjustment.

Group Therapy

For most of my psychiatric career, I have used group psychotherapy, either in authori-

tarian group or analytic group. During the last eight years, I have had analytic groups in continual session.

Each analytic group is composed of eight to ten persons of mixed sexes and different ages, and each session is for a full two-hour period once a week. In the beginning there was only one group but because of the demand it was necessary to increase to four groups a week.

These patients were not allowed to join the analytic group without a period of individual psychotherapy. At least ten hours were required in private session in order to establish adequate rapport and understanding. All patients undergoing psychoanalytic psychotherapy were urged to join group psychotherapy after the first few months in order to help resolve the transference neurosis. On joining an analytic group, each person signed a pledge not to discuss members of the group with anyone outside; the group and members were only mentioned by given names.

Of the patients referred, about four per cent were put in analytic group psychotherapy but 12.5 per cent of those receiving other forms of psychotherapy were followed up in group therapy. The oldest group has had 415 sessions, and the longest time that any one patient has remained in group has been 256 sessions.

Bibliotherapy

In order to expedite therapy, bibliotherapy has been used over the years. Early in my career, I used pamphlets and reprints of my articles, and, in order that there would be no conflict in the philosophy of treatment used, I published two books as prescription items. The first, published in 1946, *The Drama of Sex,* outlines normal sex practices and was prescribed wherever lack of sex knowledge was evident. In 1956, *Understanding Human Behavior* was published and was required reading for all those joining group therapy. It also helped to expedite therapy in other forms. In this book, not only is the basis of personality discussed, but also diagnoses and the various forms of therapy.

Drug Therapy

During the last six years, drug therapy has been on the increase, either alone, or in conjunction with shock therapy or psychotherapy. Of all the patients referred, 16 per cent received one or more of the drugs. Most of the patients before referral had been on drugs for extended periods.

Of the drugs the ones I have used most have been Serpasil, Thorazine, Stelazine, Frenquel, Miltown, Deprol, Nardil, Tofranil, and Ritalin. Previously to the availability of these drugs, Dexamyl was frequently used. Most of the other tranquilizers and stimulators have been tried but have shown no advantage over the above preparations. For sleep, an occasional Seconal or Tuinal has been given, but never for more than five doses.

Non-psychiatric practitioners have been prone to continue psychoneurotic or psychotic patients on sedatives such as barbitals long beyond their usefulness. This continuance leads to over-dependence on the drug and thus complicates the psychopathic findings. Since the introduction of the so-called tranquilizers and stimulators, these practitioners have tended to underdose and to continue the medication indefinitely. This ineffective therapy may do more harm than good. Medication alone does not give the patient insight. It needs to be associated with psychotherapy.

Hospitalization

During the first five years, three per cent of the patients were hospitalized. Most of these cases could not be managed at home and the family demanded the patient's commitment. In the last five years, the percentage of hospitalizations has been less than one per cent, but over the fifteen years, there have been seven suicides, 0.12 per cent, which means that perhaps these patients should have been hospitalized, as they were not properly supervised at home.

Once my patient was committed to an institution, I did not follow up on the treatment, leaving the therapy to the hospital staff. On release, many of the patients returned to me for follow-up.

During the past 15 years, repeated efforts have been made to get the local general hospitals to establish facilities for the care of psychiatric patients. The County Hospital was the only general hospital in the county after World War II which had any psychiatric beds and these were inadequate for the needs. Fortunately, additional psychiatric beds are now being made available. Many acute psychiatric patients need hospitalization only for a week or two and are then better off at home under ambulatory treatment.

Finances

In private psychiatric practice, financial arrangements with the patient are obviously important, and as a therapeutic tool may be especially significant in psychoanalytic cases.

Following the war, with a shortage of psychiatrists and a lack of psychiatric clinics, it was reasonable that the referrals at that time were more apt to be in the low income brackets, or even indigent. In fact, it was very evident that some of the patients were referred by physicians who had had them for long term patients, and that quite possibly the patients were referred in order to get rid of them. No patient was refused, whether able to pay or not, and in the first few years, large amounts were carried on the books. Also during this early period, very few of the patients were covered by any form of insurance. After the war, contracts were made with the Veterans Administration to give psychotherapy on the basis of ten dollars for a 45-minute period. Also, because of the lack of psychiatric facilities, for several years a low-cost service was maintained in which the charge for low income patients was five dollars for shock or a 45-minute examination or psychotherapeutic hour.

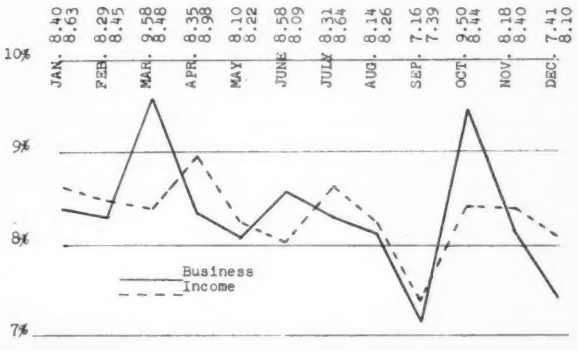
During the first five years my basic charge was fifteen dollars for a psychiatric hour and shock was charged at fifteen dollars a treatment. In order to maintain my schedule, it was necessary to work long hours, seven days a week, no holidays, three days a week from 8 a.m. to 11 p.m., and 8 a.m. to 6 p.m. the other three weekdays, with 9 a.m. to 2 p.m. on Sundays. I had no vacation during the first five years. Fortunately, the situation changed, and more psychiatrists came into the area, along with the establishment of 17 public psychiatric clinics. I reduced my hours of work to a maximum of 44 per week and a vacation each year. I increased my fees to $20.00 an hour, and the charge for shock and electroencephalograms was increased to $25.00. As the situation further improved, I increased my fee to $25.00 for the psychiatric hour, and shock to $35.00. Office visits of less than 15 minutes were $5.00, but I continued electroencephalograms at $25.00.

Various insurance plans have helped patients with their bills. The insurance plans have become increasingly popular, and 49 per cent of my patients stated they carried insurance which partly covered the bills. The Social Security Administration and the Workman's Compensation Board allow a fee of $20.00 for consultation. During the last three years, nine per cent of my cases have been covered by social agencies. The Veterans Administration referred no cases in the last ten years. Obviously, over the years, because of the availability of public psychiatric facilities, and my charges, indigent cases and low income patients have dwindled.

The following chart shows the total business done and cash received each month on a percentage basis. In the last seven years, the differential between business done and cash received was less than two per cent. It

TABLE X

Seven-Year Average Percent



is interesting to note that the busiest months were March and October, and the lightest was September, while there were certain periods of the year when payments were most apt to be made.

Summary

1. During the 15 years after World War II the concentration of psychiatrists has increased from 1:89,00 to 1:14,230 population in Nassau County, N. Y.

2. In these 15 years, 5,676 patients were referred for diagnosis or treatment; in the first five years, 82 per cent were referred by physicians and only 3 per cent were self-referred, while in the last five years, about 49 per cent were referred by physicians and 31.5 per cent were self-referred. January and May were the months of most referrals.

3. Of all referrals, 44.95 per cent were male, and 55.05 per cent were female. The highest percentage of males was referred in March, April, and August, while the females were in the majority in January, February, and November. Of all these patients, 55 per cent were between the ages of 20 and 50.

4. The highest percentage in the diagnoses was 34 per cent schizophrenic reaction in August, although the over-all percentage for this diagnosis was 23 per cent. The next highest diagnosis was depressive reaction in September, at 25.6 per cent, with an over-all percentage of 14.5 per cent. But in the first five years, anxiety reaction accounted for 38.5 per cent.

5. Electroshock therapy is still an effective modality but with the introduction of the tranquilizers and energizers, its need has been reduced. Of those needing shock therapy, 86 per cent recovered following this treatment.

6. Psychotherapy is essential in psychiatric practice. Brief psychotherapy of less than 30 hours was used in 32 per cent, hypnosis in 2 per cent, and psychoanalysis in 26 per cent. Of the 1,479 patients undergoing psychoanalytic therapy, 75 per cent were considered well adjusted after an average of 89 hours.

7. Group therapy is a helpful technic and was used as a follow-up for 12.5 per cent of the individuals in psychotherapy.

8. Less than one per cent of the patients needed hospitalization, and only 0.12 per cent of the patients committed suicide.

9. The differential between business done and cash received was less than 2 per cent, and the busiest months were March and October, while the lightest month was September.

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Adolescents in Distress

Therapeutic Possibilities of Lobotomy

WALTER FREEMAN, M.D., PH.D.

Adolescence is not only a period in life but also a state of mind and that state is usually one of self-scrutiny and upwelling anxiety. A certain amount of anxiety is good for a boy or a girl, in the same way that a certain amount of fleas is good for a dog—keeps him from thinking about being a dog. But immoderate anxiety can be harmfully disturbing to the adolescent and can lead not only to helplessness but to a variety of symptoms both physical (psychosomatic) and mental (psychotic). It is this type of anxiety that responds favorably to frontal lobotomy, the change in personality being usually in the right direction with better chances of rehabilitation.

This study is concerned with seven patients operated upon during adolescence in the past five years. One is hospitalized because of alcoholism and promiscuity; one, a gypsy, dropped from sight, and the only contact was a letter a year later from his draft board in Tennessee. The other five patients are making variable adjustments at home and at school. They all suffered from the paralyzing type of anxiety and were truly adolescents in distress. Only one had received "adequate" psychotherapy, three years in Langley Porter Clinic.

The purpose of this report is not to cast doubt upon the efficacy of psychotherapy in the average case, but rather to direct an entering wedge of doubt at the opinion commonly held that psychotherapy is the only modality of therapy available for adolescents in distress. Progress in science comes about as the result of doubt, that kind of doubt that is dissatisfied with current concepts and which leads to further exploration.

A secondary objective of this paper is to enter another wedge of doubt, constructive doubt, into the opinions commonly expressed, that lobotomy kills the soul, converts the patient into a robot, changes a functional disorder which is potentially recoverable into an organic one from which there can be no recovery, and alters the personality so greatly that the patient can never thereafter function adequately in society.

Once the possibility is acknowledged that a change in personality is the *sine qua non* to help a chronically distressed adolescent to mature, the therapeutic potentialities of lobotomy can be examined with an intelligently critical attitude, unhampered by immediate rejection, or by a decree from above such as happened in the Soviet Union a decade ago. The following case reports should be assessed according to the principle of double effect: What has the patient gained or lost by operation and what has Society gained or lost in the process of this personality change? Then the hypothesis can be examined as to whether some other treatment would have resulted in an equal or greater benefit to the individual and to Society.

Case Histories

Case 1: R.C., a 21-year-old boy, was precocious, learning the alphabet in one day and reading children's books at the age of 6. Compulsive behavior was noted at the age of three years. His odd behavior at school won him only torments. He entered Langley Porter Clinic at 15 and reportedly was allowed to spend half the day in bed. He entered psychotherapy willingly enough but easily became confused by the different approaches of several therapists. His scruples became more fixed, his attitude toward members of his family became more hostile and he gave play to his feelings of inadequacy and sensitiveness. After three years at Langley Porter and another six months at home he was admitted to Agnews State Hospital in June 1959. There he had more time to fantasy and to cultivate his anxiety. His stereotyped phrase: "I'm doing the best I can" seemed to indicate his attitude of helplessness. A course of 40 electroshock treatments brought only fleeting relief from his distress.

R.C. underwent transorbital lobotomy at Doctors General Hospital in San Jose on January 20, 1960

Presented at Langley Porter Clinic, San Francisco, Calif.

without incident. He returned home on the third day. For some weeks he was indolent but the expected sarcastic, abusive and intransigent "echo" period failed to materialize and in two months he was alert and cheerful, helping about the house and garden, and getting along better with his younger brother. His feelings were less easily hurt and he seemed less self-conscious. He continued his strict religious observances, but also made more social contacts. He is now in a period of rehabilitation at Goodwill Industries. Thus, within a year after transorbital lobotomy, this young man has made more progress, socially, than in the preceding ten.

Case 2: R.W. quit school at the age of 14 when he became progressively preoccupied with hallucinations, feelings of depersonalization, thought control and "guineapigging." He was admitted to O'Connor Hospital, San Jose, at the age of 17 in a dazed state, fearful that his heart was affected, that he was going to die. The voices talked about Communism, God and the Devil, and suggested indecent actions to him. He felt that he couldn't go on. He realized that he was mentally sick.

Transorbital lobotomy was performed at Herrick Memorial Hospital, Berkeley, April 3, 1956. He was discharged home on April 5 and a week later was described as "slow, ornery, late and lazy." He was treated at Agnews State Hospital for about two months during the "echo" period when his behavior at home became intolerable, but since then has stayed at home. He plays the banjo, is cheerful and talkative, does some drawing, but lacks persistence in finding or holding a job. In May 1958 he suffered a convulsion. The hallucinations and morbid thoughts have not recurred and he seldom dreams.

This young man shows a defect state that has persisted nearly five years. It is still too soon to say that he will never earn his keep. The question may well be asked whether this defect state is the result of operation or of the underlying disease. The question seems academic, however, in the sense that the usual course of an adolescent experiencing hallucinations at the age of 14 is hospital-bound.

Case 3: C.C. was 14 years old when operated upon at Herrick Memorial Hospital, Berkeley, on January 24, 1958. She was in the eighth grade, had done well with her studies until November but did not join in social or athletic activities. For the preceding six months she had become progressively seclusive. Her mother had a schizophrenic breakdown when Carol was six years old and is on a chronic ward at Agnews State Hospital. Carol became excited at school on December 11, paced the halls talking loudly and went to the nurse who took her home. In the following days Carol alternated between excitement and stupor. "I felt like my head was stretching out somewhere else—like it had a hemorrhage and I was going to pass out." During the examination Carol repeatedly expressed ideas of dying, with contortion of the face and obvious distress. The pulse ranged from 124 to 160 and the pupils were maximally dilated. The panicky state continued in spite of promazine 0.6 a day.

To meet the crisis I administered intensive electroshock therapy, five the first day, four the second and three the third. On returning to consciousness her first connected words were: "I want to go home. I'm so afraid. I want to get out of here." To deal with this uncontrollable anxiety I performed transorbital lobotomy and discharged her to her grandmother's home two days later. Within two weeks she was helping with the housework, hemming napkins and looking after herself. Only once was there a brief panicky spell accompanied by hyperventilation. She was cheerful and energetic. She returned to school in February, lost no time and did reasonably well in her studies. More than that, she became lively and sociable, curbed her appetite. Carol is now 17 and a sophomore in high school, getting better marks than ever. She has two or three boy friends and is straightforward and pleasant with them. Her grandmother states that Carol is not showing the disagreeable traits that so many high school girls show at her age. She participates in athletics.

This girl's personality has undoubtedly been changed by lobotomy. The operation abolished in dramatic fashion her distress, and with it the somatic preoccupations and reverberations. Once the anxiety was relieved a lively and friendly personality emerged.

Case 4: A.W. was 18 years old when lobotomized in March 1956. As a small child she was precocious in music and did well up to the second grade. Then her parents separated. She was emotionally upset at that time and failed in her school work, never learning to read or write. She was exceptionally sensitive to noise, yelling when the vacuum cleaner was working. Her domestic accomplishments were limited to making coffee and boiling eggs. She dropped so many dishes that she was given plastic articles. She was careless in dressing, seldom bathed, and allowed her hair to straggle. She had no friends. Rages were frequent when she was disturbed. Even as a small child she had resisted cuddling.

She admitted talking to herself in the mirror; she felt she could project her thoughts, that people were looking at her and talking about her. She experienced feelings that the walls were closing in on her. Once she heard her name called when nobody was around.

During the examination she alternated between alarm and indifference. She discussed her symptoms candidly, depreciating herself as stupid, but with an alertness that belied her supposed mental deficiency. She was unkempt and dirty.

Transorbital lobotomy was performed at Herrick Memorial Hospital, Berkeley, on April 3, 1956 and

she returned home two days later. Her adjustment at home was worse than anticipated. The girl neglected herself and the household chores, smoked incessantly and talked endlessly on the telephone. She wet the bed at times and showed no shame. She flared up in anger, swearing on slight provocation. She left home for hours and refused to tell where she had been. She was momentarily contrite when severely criticized by a boy friend. Finally her behavior necessitated her admission to Agnews State Hospital in July. At first she did not participate even in the simple ward routines. Later she worked in the dining room and began taking more interest in her personal appearance. By the year's end she was discharged to her mother's care. Things went from bad to worse. She drank and consorted with men, stole money and cigarettes, lied, resented any attempt to socialize her. Finally in November 1958 she was recommitted to Agnews State Hospital, having been taken into custody as a vagrant. She was shifted to various wards. When seen in December 1960 she was clean and strikingly made up. She was vivacious and quite frank about her life at home. She said that it was boredom that drove her to the bars, and that only when she was drunk could she endure sex relations, but it often happened. She is doing fifth grade work in the school at the hospital.

Socially, this young woman has exchanged a life of inner turmoil for one of easy self-expression, with release of inhibitions to the point of being a menace to the community. In the hospital, however, she has a facile, outgoing manner that is agreeable to the bedridden patients on the ward where she works. With the fantasy life eliminated by lobotomy she is dependent upon the small community of the hospital for her stimulation. She has not yet reached the point where she can take responsibility for keeping out of trouble in the larger community outside the hospital. When I told her I thought the lobotomy was a failure she bridled, saying that it had rescued her from the downward path and that it only remained for her to settle down and reestablish herself. A large order.

Case 5: D.W. was 18 years old when lobotomized at Doctors' General Hospital, San Jose, September 11, 1959. He was described by his mother as always sensitive, a crybaby. He quit school at 15, stayed at home helping with household chores and tinkering with a jalopy; but he was afraid to go beyond the front door. He experienced panicky feelings with numbness of the hands, epigastric distress, diarrhea and tachycardia. He withdrew progressively, staying up late at night and spending most of the day in bed. Depression and thoughts of suicide preoccupied him. He spent the months from February to June 1959 in Agnews State Hospital, benefiting briefly from interviews with a psychologist, but worsening after shock therapy that terrified him. He indulged in fantasies of killing his mother and dynamiting his home. Under sodium amytal he spoke freely of his resentment toward his mother for nagging him but at the same time recognized his need for her. Carbon dioxide inhalations failed to bring about an abreaction. After three months of effort he was again slipping back into his seclusiveness and hostility. Tranquilizers depressed him and he liked sodium amytal too well.

For two weeks after transorbital lobotomy he was meek, lazy, hungry and sleepy. Then he became more aggressive and hostile. He was more friendly outside the home and took girls out in his car. He had a few temporary jobs and groomed himself better. He had brief periods of uneasiness but no panicky feelings. His principal handicap is impatience and irritability. In brief rages he has broken doors and dented his car. He is still unable to accept orders gracefully and hence has held no job for long.

This young man is no great asset at home; nevertheless he is no longer troubled with morbid thoughts and his outbursts are not followed by sulky spells. He has undoubtedly profited from relief of his distress and society is probably the better since he would very likely have had to return to the hospital.

Case 6: H.D. was lobotomized at the age of 12 on December 16, 1960, hence is still (January 1961) in the early stage of social convalescence. His mother died of cancer when he was five years old. Shortly before her death she gave birth to a third son. Howard attacked the baby in its crib, fracturing its skull and crushing its chest so that this child is a cripple and mentally defective, now in a foster home. His father remarried a divorcee with two sons, one of Howard's age and one older. There is also a younger half-brother. Howard has always been a misfit. Among the stepmother's bill of particulars are lying, stealing, cheating, snooping, scaring, handling and smearing feces, urinating on the rug, teasing, bullying the younger boys, responding neither to affection nor punishment, showing neither anger nor pleasure. At times Mrs. D. was fearful of him because of his scowling look of hatred. He would pretend to pet the dog and at the same time tighten its collar to the point of near suffocation. The father, a teacher, admitted his inability to deal with the boy, sometimes beating him and calling him foul names. Howard seemed to bring this on himself, since the father was kindly toward the other boys. A close friend of the father's took the boy on weekends and reported erratic behavior. "Facial muscles contract—but no twitch or tics—shows inward suffering but can't describe—extreme state of agitation; shifts eyes in peculiar manner."

Howard was seen in the psychiatric clinic at the University of California when he was seven years old, and for another two years was under treatment at the Family Care Center in Palo Alto, but he

made no progress. Nor did he progress in school, though as early as two years of age he showed exceptional intelligence in sorting various items of electrical equipment.

Howard was a tall, slender boy with a sallow complexion and unhealthy-looking bags under his eyes. It was difficult to get him to talk, but in subsequent interviews he expressed interest in chess, contract bridge and postage stamps. He preferred to be alone on hiking trips, resented being called back to the trail. He believed that he got the blame for everything that went wrong in the home. He related a frightening experience when he heard someone talking angrily at him at night. When he turned on the light there was nobody there. His preoccupations were shown in some crude drawings.

Transorbital lobotomy was followed by rather severe reaction with fever, stiff neck and vomiting. Spinal puncture showed 4000 wbc. but a sterile culture. He remained in the hospital five days until December 21. After returning home he was relaxed, more cheerful and almost perpetually hungry.

It is too early to predict the outcome.

Discussion

Lobotomy affects neither intelligence nor memory. It does alter in decisive fashion the attitude of the individual toward himself. It bleaches the affect attached to the ego. Thus it reduces the patient's interest in his inner experiences. This makes for quick responses to external situations with reduction in premeditation. At the same time it reduces sensitiveness and self-consciousness. The patient may flare up in anger, is less capable of restraining himself, but he is also unable to sustain his rage. In this respect he becomes more immature, more child-like. The reduced sensitiveness makes it possible to discipline the patient without hurting his self-esteem. His reactions are vivid but fleeting. Most of the time he is at peace with the world as well as with himself. Once his emotional distress is reduced to the tolerable level, or maybe a little below, he becomes outgoing and even friendly. Upon this new personality a great deal of constructive building can be accomplished.

It will be noted that no diagnoses have been offered in these young patients. I believe it is not necessary to use man-made pigeon-holes for categorizing them. They revealed varying secondary symptoms and signs, but fundamentally they had in common a state of intolerable anxiety that rendered them poor subjects for constructive therapy. Once the distress was overcome, the personality changed by transorbital lobotomy, these patients for the most part could adjust to their life situations in a more practical and realistic fashion. Furthermore, the other members of the family no longer had to walk softly and speak softly to avoid precipitating an outburst.

Conclusions

Seven adolescent patients with intolerable anxiety and varied secondary symptoms were treated by transorbital lobotomy. One was lost to follow-up. Five of the remaining six are at home with reasonable prospects of staying there.

Limited interruption of the thalamofrontal pathways reduces the emotional impact of the patient's thoughts and fantasies, particularly as regards himself. By reducing anxiety it abolishes many secondary symptoms. For a variable period the patient is unable to restrain his reactions to external stimuli, but at the same time he is unable to sustain them and hence can accept discipline and usually makes progress toward maturity.

The most striking change occurs in the realm of interpersonal relations, with the appearance of self-confidence and friendliness. Intelligence is not only unharmed, but made more readily available for practical uses instead of fantasy.

The Fifteen Minute Hour

ARNOLD J. MANDELL, M.D.

Introduction

Disparities between demand and supply appear to be a frequent feature of out-patient psychiatric clinics. These clinics constantly find themselves attempting to devise new techniques to answer the large demands. Group therapy has been one important step in this direction. Little has been done, however, to alter the mechanics of individual therapy to help mitigate this problem. One of the reasons for this, perhaps, is the long tradition of fifty minute hours and the great influenc eof psychoanalysis and its emphasis on "insight" and goals of characterological change. Many of us feel we are compromising an ideal therapeutic form in the briefer once or twice a week therapies which we attempt to make "psychoanalytically oriented."

It was within the context of such a clinic that we began to experiment with a new technique which has proved to be of value with a number of psychiatric patients. We felt that it might be of some use in the busy practice of the general psychiatrist who may find himself committed to answering needs of referral sources or communities short of psychiatric services for which he hasn't sufficient time.

The following communication proposes a psychotherapeutic form which is techniquely not too difficult and is quite rewarding with selected cases. We will discuss patient selection, treatment techniques, and difficulties encountered in the use of the fifteen minute hour.

Patient Selection

Since the primary goal of this form of therapy is the return of the patient to his premorbid level of adjustment, the emphasis during the initial evaluation must not only include the existent psychopathology but, more important, the past and potential levels of functioning—the patient's strengths. To get the best results from this form of therapy, the patient should ideally have an illness which is temporally well demarcated, or of short duration, and superimposed upon a personality that has functioned moderately well in the past. It goes without saying that the major psychiatric illnesses, especially the schizophrenias in the acute form, do not lend themselves to this form of treatment. However, not all major illnesses need be excluded. We have treated three involutional psychotic patients successfully with an antidepressant drug and this technique (these patients, however, had well functioning premorbid personalities). Another group which may benefit from this form of therapy are the stable chronically ill who have an upset. We were able to support a chronically psychotic woman through a separation and divorce using this method. This ultra brief therapy can also function on a trial basis for many clinical conditions not necessitating immediate hospitalization or intensive therapy with the understanding that a shift to another form of therapy is always available.

Technical Considerations

The initial intake interview should be of the usual length, approximately one hour. In addition to serving the function of helping establish a working relationship, this will be the first and last opportunity to learn much about the patient. Even at this early stage of treatment, therapeutic considerations rather than information gathering should be paramount; exploration into areas which the patient resists should not be pursued. Throughout this form of therapy, one must content oneself with a state of relative ignorance concerning psychodynamic material. The therapist uses inferences from interpersonal defense patterns rather than direct information to characterize the evaluation. The object of this kind of initial interview

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is the immediate orientation of the patient and the therapy toward re-establishing the patient's repressions. One must not, however, minimize or attempt to suppress material that the patient is under great press to produce, since this will probably be considered tantamount to rejection in the patient's eyes. In this first interview then, one begins to tread a narrow path between attempting to help the patient suppress disturbing material but, at the same time, giving the patient the feeling of acceptance of him as a person.

At the end of the evaluation the therapist acknowledges that the patient has a problem and that the therapist feels he can help him. The patient is given a definite time for the next meeting and told that the therapist is available if something arises. (We have found that indicating one's availability in most cases cuts down on the number of phone calls rather than increasing them.) It is felt that the patient feels that the therapist is with him as long as he can look forward to seeing him at a definite time in the future. We call this "therapeutic timelessness." The therapist, as an external representative of a hopefully benign introject, begins immediately to play a role in the patient's life. With the therapist as a figure in the patient's daily fantasy life, the psychotherapeutic experience extends beyond the time limits of the actual personal contact. This theme continues throughout the therapy.

On the next meeting, at the first part of the first fifteen minute session, the therapist in a rather positive and didactic way outlines the problem as he sees it, emphasizing the patient's strengths and abilities. He also includes a statement concerning the patient's psychopathology, but in way which will be ego syntonic. To the depressed, middle-aged, obsessive compulsive one might say, "You have worked hard all your life in a constructive and valuable way and now you're tired and wonder if you can keep going." One would avoid pointing out the frustration of his infantile magical hope for eventual dependency gratification and his inward turned anger at this. The therapist then states his belief in the patient's ability to regain his previous level of functioning and that he does not need long and frequent psychotherapeutic sessions. The therapist tells the patient that he will be seen weekly at first for a short period of time, "about fifteen minutes," to talk about his problem. At this point, the patient will usually evidence mixed emotions. He is pleased that the therapist recognizes his strengths and considers him not too sick, but at the same time, he may be disappointed that the amount of therapeutic contact will not be more. The therapist ignores this and directs the patient's attention to his life by asking something like, "How are things going?" One must assiduously avoid giving the impression that this therapy is second best and is more a function of the shortage of resources rather than the patient's needs. The patient leaves with the feeling that it is the therapist's honest opinion that this therapy is the best for him.

The therapeutic maneuvers thenceforth will be dictated by the individual process with the general themes of:

1. Emphasizing strengths.
2. Reinforcing defenses.
3. Making immutable psychopathology ego syntonic.
4. Allowing the positive transference to grow unexplored.
5. Role playing within the transference for therapeutic effect.

These will be discussed briefly.

Emphasizing strengths may not be as easy to do as it sounds. Certain groups of patients become mistrustful when complimented directly. In addition, certain patients may interpret a compliment as a statement of an expectation or demand from the therapist; thus, frequently, this must be done quite indirectly. For example, a casual acceptance by the therapist of the statement of an achievement by the patient may in one case be more reinforcing than a compliment. Statements concerning the patient's insight, sensitivity, or understanding are frequently quite acceptable to patients.

The problem of reinforcing defenses can be handled directly in the therapeutic interaction. One intellectualizes to the intellectualizer concerning his problems. You and he discuss his problems "rationally." He achieves a feeling of a kind of mastery of the therapeutic situation which may help repair the defense for use in the world. The therapist goes along with the reaction formation of the "independent" passive dependent individual. You agree that he is doing all the work himself, that he really doesn't need you. The therapy then becomes a place where the patient tries his broken down defenses and find they work. He gains confidence and begins to use these previously successful mechanisms with greater comfort in the world. Again, however, these maneuvers are not always without danger. One must be constantly aware of the multiplicity of defense systems and frequently their incongruity, especially in a neurotic individual. One must be careful to side with the most prominent, valued, and successful systems.

Perhaps the most difficult thing for the therapist to do in terms of his own feelings is to attempt to make unchangeable psychopathology ego syntonic. It feels like a therapeutic surrender and yet it is consistent with the reality limits on the amount of psychotherapy available. "You're not a homosexual, you're lonely and want friends." "You're not a pervert, there are a lot of ways to get sexual gratification in this world." "You're so organized and neat, I can understand why you have been successful in your job." Just the acceptance without dismay or shock on the therapist's part will go a long way in this direction.

It is the feeling of Alexander[1] and others that the patient grows within the context of a positive transference and that this is the most important psychotherapeutic tool. Much of the preceding technique could be looked at as attempting to keep interpersonal problems at a minimum during the short time with the patient so that he can carry around a positive image of the therapist and positive reflection of himself during the time when he is away from the therapist. This extends the therapeutic effect beyond the confines of the fifteen minutes. Certainly, no interpretations of this positive transference should be made.

Once the therapist is in the role of the loved object, one can play this role in whatever way the patient may need to help him straighten out his current intrapsychic or external environment. For example, the patient may need an authority to give him permission to ease his environmental stresses: "You've struggled hard in your life and it's about time you protected yourself." In patients with exaggerated reactive depressions following object loss, the therapist may even for a time role play some of the characteristics of the lost person until the acute symptomatology wanes. In general, the therapist uses much more role playing and active participation in this form of therapy than in the more conventional forms.

It will become evident within three or four fifteen minute interviews whether the therapy is "taking." If it does, one may need only to see the patient ten or twelve times in all, with the last few sessions being further and further apart (up to four or six weeks). With these patients, one adds to the "timelessness" of the therapy even further by leaving the possibility of occasional return visits open. The therapist makes the patient feel that he can at any time call upon the therapist. This reinforces the patient's use of the therapist's image in his daily life and tends to extend the therapeutic effect beyond the end of the therapy.

In those patients who do not seem to be doing so well, or are getting worse, one must evaluate the therapy and the patient in order to make one or more of three kinds of general statements. The first one concerns the possibility that though this form of therapy may help this patient, there is something amiss in the therapeutic process. Because of the active participation of the therapist and the brevity of the therapeutic contact, unconscious attitudes of the therapist toward the patient are more likely to be seen than in more conventional nondirective methods and have less time to be worked

through both by the therapist and the patient; thus, countertransference difficulties should be looked at quickly since time for resolution is not available. The second possibility is that the clinical status of the patient, his defense system, the amount or type of psychopathology for some reason or another (and the therapist probably will not know the exact reasons) makes him ill-suited for this form of therapy and the therapeutic program will have to be altered. The third possibility is difficult to state precisely but it has to do with the realistic evaluation of the prognosis of the patient with *any* form of psychotherapy with the possible exception of certainly unavailable long term psychoanalytic treatment. Many long-standing character disorders will not do particularly better on once or twice a week psychotherapy of fifty minute length than they will with this fifteen minute form. In these cases, the therapist may choose to see the patient for a period of several weeks, orienting the patient to the fact that some psychopathology must be lived with, then attempting a trial termination. These may be lasting and at least administratively, the problem is solved.

Discussion

Many of the therapeutic issues discussed in this paper are excellently put forth by Pumpian-Mindlin[2] in his discussion of techniques of termination and transfer in more conventional short term therapy. It is interesting that these same techniques can be used with good results in this even briefer form of treatment. Important questions that can only be answered by large follow-up studies concern whether this form of therapy is superior to the demonstrated therapeutic effect of being on a waiting list[3] and how lasting any improvement is. It, however, appears to be a technique worth trying and may be a valuable addition to the armamentarium of a psychiatrist upon whom there is a large demand.

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Clinical Evaluation of Chlorhexadol, a New Hypnotic

OSCAR ROZETT, M.D.

While chlorhexadol, the subject of this report, is a new hypnotic, it may be thought of as an old and established drug, since it is a chemical modification of chloral hydrate.

As a sedative hypnotic, chloral hydrate has had a long and honorable clinical history. The drug earned and has always maintained a reputation for excellent hypnotic effect. Chloral hydrate has been described as a "hypnotic of attested efficacy"[1] with "ordinarily little or no effect on the heart"[1] when given in therapeutic dosage. "Chloral hydrate is the oldest member of the hypnotic group and clinical experience shows that it is still one of the best."[2] "The incidence of hang-over or other side effects is insignificant."[3]

Despite these desirable attributes, however, and despite its ability (perhaps unique among hypnotics) to induce what is often referred to as "physiological sleep,"[4] chloral hydrate has been neglected in recent years. According to Goodman and Gilman, this is due to "the ease with which the barbiturates are dispensed and the prominence given them in medical literature and in drug advertising. . . ."[2] Another factor has been the drawback with chloral hydrate of gastric irritation.

Chlorhexadol is the result of efforts to resolve this difficulty—to retain the hypnotic

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The compound, chlorhexadol, used in this study was supplied by Wallace Laboratories, Cranbury, New Jersey, under their tradename LORA.

efficiency of chloral hydrate without its troublesome side effect of gastric irritation. Chlorhexadol[5-7] is a hemiacetal combination, or conjugation, of chloral hydrate and methylpentanediol; in the stomach juices, the drug undergoes hydrolysis into its components. The rate at which chlorhexadol is hydrolyzed apparently permits the chloral hydrate, as it becomes available, to be absorbed from the gastrointestinal tract rapidly enough not to reach a concentration capable of causing local irritation.[7] Methylpentanediol, the less familiar of the two components, is an agent of very low toxicity.[7-9]

Method and Material

This study made use of 102 hospitalized psychotic and severely neurotic patients, 27 males and 75 females, ranging in age from 15 years to over 70 (with 79 of the patients in the 20-60 year brackets). Body weights varied from 80 to more than 200 pounds (with 81 of the patients weighing 100-170 pounds). Diagnoses reached for this group of patients were as follows:

Acute brain syndrome—alcohol intoxication	3
Chronic brain syndrome with expanding intracranial lesion	1
Adjustment reaction of adolescence	1
Conversion hysteria with depression	1
Hysteria with drug addiction	1
Manic depressive—mixed type	4
Manic depressive—depressed type	14
Manic depressive—manic type	3
Involutional psychotic reaction	27
Personality disorder—stress reaction	1
Psychoneurotic disorder—phobic reaction	1
Psychoneurosis—anxiety state	2
Psychoneurosis—depressive reaction	16
Psychotic depressive reaction	2
Sociopathic personality disturbance—drug addiction	1
Schizophrenic reaction—acute undifferentiated	8
Schizophrenic reaction—paranoid type	5
Schizophrenic reaction—chronic undifferentiated	7
Schizophrenic reaction—schizoaffective type	4

Chlorhexadol was administered in the form of oral tablets containing 800 mg. of the drug (equivalent to 500 mg. of chloral hydrate); it was given at bedtime on four consecutive nights. Note was taken of the time required for sleep-induction, the duration of sleep, and the occurrence of side effects. The usual initial dose was two tablets (1600 mg.). Patients were given repeat doses of chlorhexadol or were given additional sedation with other agents, as needed for sleep. During the four-day period of chlorhexadol trials, 67 of the patients were receiving tranquilizers; 35 were not.

Results

In a total of 355 trials with chlorhexadol the time required to fall asleep was usually 30 minutes (i.e., the *mode* time); but the average time was 43 minutes. Details of these sleep-induction intervals are tabulated below:

No. of Trials	*Time Needed to Fall Asleep*
7	less than 10 minutes (medication probably unnecessary)
21	10 minutes
60	20 minutes
147	30 minutes
9	40 minutes
47	1 hour
29	1½ hours
17	2 hours
14	2½ hours
1	3 hours
2	3½ hours
1	4 hours

Duration of sleep was recorded for the 355 trials, with the following results: On 260 occasions (73%), patients slept from six to nine hours (most frequent duration was 8 hours). On 29 occasions (8%), patients slept five hours or less; and on 66 occasions (19%), patients needed a repeat dose in order to sleep. Further details are given below:

No. of Trials	*Hours of Sleep*
57	9
122	8
64	7
17	6
3	5
7	4
5	3
7	2
6	1
1	0

Of the 66 occasions when additional chlorhexadol was required, 14 repeat doses of one tablet each had good hypnotic results and one such repeat dose had poor results; 31

repeat doses of two tablets each had good hypnotic results, five such doses had fair results, and 13 such doses had poor results. The patients with good results following repeat doses had from four to seven hours of sleep; this duration depended on the time when additional medication was given, since all patients were routinely awakened between 7 and 8 o'clock in the morning.

Side effects were few—coughing was reported in one patient; two patients complained of headache; one patient complained of headache and nausea.

Discussion

From the results of these trials, it appears that chlorhexadol has the desirable hypnotic attributes of chloral hydrate without the undesirable trait of causing gastric irritation. Since the drug was well tolerated in all but four patients and since the complaints of the latter, in the psychiatric context of this study, are only dubiously drug-related, there is reasonable ground to consider chlorhexadol as essentially non-toxic and free of untoward effects.

The question of optimum dosage warrants special consideration. In this study, the most common dose, two tablets or 1600 mg., usually proved sufficient. However, repeat administrations of chlorhexadol were required about 20% of the time (66 out of 355 trials). Yet, in 45 of these 102 psychotic and severely neurotic patients, the two-tablet dose was effective enough to produce good sleep on four consecutive nights. The logical assumption is that 1600 mg. of chlorhexadol may be taken as the standard dose in dealing with ordinary cases of insomnia encountered in the general patient population.

Summary and Conclusions

1. Using 102 hospitalized psychiatric patients, a new hypnotic, chlorhexadol, was evaluated in a total of 355 clinical uses. The drug is a chemical modification of chloral hydrate; each 800 mg. tablet of chlorhexadol is equivalent to 500 mg. of chloral.

2. Chlorhexadol was given at bedtime on four successive nights. The usual initial dose was two tablets. Sleep usually occurred after 30 minutes and usually lasted 8 hours.

3. Side effects (headache, 2; headache and nausea, 1; coughing, 1) were few and minor; nor is it certain that these complaints were truly drug-related.

4. The optimal routine dose of chlorhexadol for ordinary cases of insomnia in general practice appears to be two tablets (1600 mg.) at bedtime.

5. Chlorhexadol, it is concluded from this study, can be classed as an effective hypnotic agent of very low toxicity. More specifically, chlorhexadol seems to possess all the excellent virtues of chloral hydrate (including prompt and "physiological" sleep) but not the drawback of gastric-irritant action. Chlorhexadol, therefore, represents a remarkably troublefree "modernization" of chloral hydrate—and that, as such, chlorhexadol offers a welcome alternative to a number of the drugs routinely used (and sometimes over-used and abused) for hypnosis in present-day practice.

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On Anxiety: Relationship Between Methods of Evaluation

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Although the importance of anxiety has long been recognized as a problem which occupies a central position in the theory of psychopathology and psychosomatic dysfunctions, our understanding of it is not complete. The "original" state of the psychic apparatus of the individual, the degree of tension and anxiety, were thought to determine the nature and the extent of the changes that occurred under the effect of certain drugs. This "original" state was hypothesized to account, at least in part, for the differences in responses obtained from different individuals under drug conditions. A study of this relationship between the "original" state of the individual with regard to anxiety and his reaction to drug effects has been underway.

Method of Study

A group of 24 subjects presenting varying degrees of anxiety was obtained from the psychiatric service of the Kings County Hospital Center, Brooklyn, New York. The subjects were selected on the basis of those criteria: a first admission to a psychiatric hospital of white males in age range 16 to 36 years. The subjects had never received any type of shock therapy and did not show any evidence of encephalopathy on physical, mental or laboratory examinations. Clinically they presented a picture of predominantly psychoneurotic or character disorder. The subjects are a carefully selected group. This selectivity was felt desirable to secure, more or less, homogeneous sociopsychological patterns and to avoid as much as possible the interference of environmental, racial and sex differences which are known to be potential handicaps in studies of this nature. In view of the rather small size of the group this relative homogeneity was also thought to reflect any existing differences or trends to a degree that would permit achievement of statistical significance. The following data were obtained on each subject:

1. Basic identifying information including age, sex, race, degree of education, weight and height.
2. Evaluation of the degree of anxiety.
3. The sedation thresholds for two central nervous system depressants selected for the purpose of the study—namely, amobarbital sodium and ethyl alcohol.
4. The performance on a battery of psychological and psychomotor tests as indicators of drug effects at the levels of the sedation thresholds.
5. Electroencephalographic tracings of the brain waves as a physiological indicator of the drug effects.

This report will limit itself to the discussion of the measures of anxiety used and the relationship between them. Three approaches were undertaken to determine the degree of anxiety of each subject: clinical judgment, the Figure-Drawing Test and the Taylor Anxiety Scale.

A. Clinical Judgment of Anxiety:

Although definitions of anxiety in psychiatric and abnormal psychology texts vary, there tends to be general agreement on the manifestations of anxiety. Buss,[3] grouped the symptoms of anxiety into categories because the probability of occurrence of any given symptom in any given subject is small. Each category was then rated on a five point scale: a rating of one represented absence or minimal manifestations and a rating of five represented maximal manifestations. This method has been previously used with reported satisfactory results to measure anxiety in clinical situations; hence its adoption in this study seemed advisable. The categories were divided into behavior observed and behavior reported by the patient, including signs and symptoms such as distractibility, restlessness, sweating, flushing, breathing disturbances, excessive swallowing, tenseness, worry, somatic complaints, palpitations, and an over-all estimate of anxiety. The subject was rated on

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a five point scale for each of the signs and symptoms. The mean score for all the categories was taken as the final estimate of anxiety evaluated through clinical judgment.

B. The Figure-Drawing Test

Machover,[6] in the course of administering Goodenough's Draw-a-man test for intelligence found that in addition to the intellectual level, the drawings yielded clinical material of considerable importance in the understanding of the personality dynamics and clinical syndromes. Inhibited non-verbal children welcomed the opportunity of drawing to unburden their private fantasies, their anxieties and their guilt upon the unobjectified and impersonal figures which they draw. Drawings of the human figure were soon incorporated in routine clinical procedures and extended to adults of all ages. The value of this test as a projective technique, the relative ease with which it is administered, and the direct method of interpretation were encouraging to use it as a tool of evaluating anxiety of the subjects included in this study.

After all the subjects were tested, the drawings were submitted to two expert clinical psychologists for evaluation of the degree of anxiety. One set of scores was obtained representing the pooled judgment of the two psychologists. It was decided to rate the drawings on three categories:

1. Hysterical versus obsessive-compulsive personality: the differences between these two personalities have been associated by many workers with differences in the degree of manifest anxiety. For this purpose the drawings were rated in a five point scale.

2. Manifest versus inferred anxiety again using a five point scale.

3. Diffuse-free-floating versus intellectualized-channelized anxiety. A five point scale was used.

In rating the drawings according to these categories, the two judges used certain criteria that they had agreed upon, for example: the degree of differentiation and primitivity of the drawing (triangle, circle, square), the size of the figure, its stance, the sexual role identification, the degree of excitement and agitation, the general line quality, shading and erasures.

C. The Taylor Anxiety Scale:[7,8]

This scale has had wide experimental use, mostly as a device for discriminating experimental subjects on the manifest anxiety continuum. The scale originally constructed by using 200 items from the Minnesota Multiphasic Personality Inventory went through several modifications. Recently Taylor revised the scale in an attempt to simplify the vocabulary and sentence structure of some of the anxiety items that appeared to be difficult to comprehend, especially for a non-college population. Her new version of the scale included only 28 items of the Minnesota Multiphasic Personality Inventory. The validity and reliability of the scale were found by many workers to be quite high.[1,5] Direct and indirect evidences to a high correlation between the Scale's scores and the clinical judgment of anxiety were established by some workers.[2,3]

For all these reasons the Taylor Anxiety Scale was considered useful as one of the measures of anxiety for the purpose of this study. The new 28-item version of the scale with its simple vocabulary and sentence structure was found suitable for the predominantly non-college Kings County Hospital population.

Discussion of Findings[4]

Taylor's Anxiety Scale, as evident in Table I, is correlated positively with the Figure-Drawing's diffuse-free-floating versus inferred-channelized scale. The correlation is significant at the .05 level of confidence. The correlations between Taylor's scale and the obsessive-compulsive versus hysterical scale of the Figure-Drawing test is, however, insignificant. There is no significant correlation between the clinical judgment of anxiety and the Taylor Anxiety Scale or the Figure-Drawing test with its two component scales. There is significantly positive correlation between the Figure-Drawing's diffuse-

TABLE I

Intercorrelations Between Anxiety Measures

	Clin. Judg.	Fig.-Draw. Obses.-Comp. vs. Hyst.	Fig.-Draw.† Diffuse vs. Channelized
Taylor's A.S.	+.26	+.11	+.48*
Clin. Judg.	——	—.10	—.04
Fig. Draw. (Obs. Com. vs. Hyst.)	—.10	——	+.57*

*P ← .05.

†The correlation between the Figure-Drawing's diffuse-free-floating versus intellectualized-channelized anxiety on one hand and manifest versus inferred anxiety on the other hand was found to be very high. Therefore reference in the table as well as in the following discussion is made only to one of the two components, yet it applies to the other.

free - floating versus inferred - channelized scale and its obsessive-compulsive versus hysterical scale ($p \leftarrow 0.05$).

The clinical judgment of anxiety was done in the majority of cases by one judge, the experimenter. The original idea was to get the independent clinical judgment of two judges, and then run a correlation between them. This was done on the first few cases and the per cent agreement between the two judges was high. Due to administrative difficulties and due to the limited and relatively uncontrolled length of stay of the patients in the Kings County Hospital, it was decided to limit the clinical judgment of anxiety to one judge on the following grounds: first, previous studies in this area, have established high correlations between the clinical judgment of anxiety and the Taylor Anxiety Scale.[2,7] Both techniques were adopted in this investigation. And second: the clinical judgment of anxiety was done within a framework that was designed by previous workers and reported to have considerable reliability.[3]

In spite of previous reports on high and significant correlations between the clinical judgment of anxiety and the Taylor Anxiety Scale, in this study the results were different. Although there was a significant correlation between the Taylor's Scale and one of the scales of the Figure-Drawing test, in general there was no significant intercorrelation between the measures of anxiety used. In an attempt to explain this finding, comparative evaluation of the concepts, criteria, and thinking behind each of the techniques was made. The clinical judgment differentiated the subjects on a scale with severely anxious at one extreme and less anxious at the other. This scale took into consideration the degree with which anxiety manifested itself. The role of the experimenter is pointed out as of considerable importance. In an interview situation, one interviewer may react to verbal stimuli of the subject while the other responds to more subtle and deeper indicators of anxiety. This difference in the degree of depth perception between interviewers might have accounted for the different findings obtained by them. Taylor's Anxiety Scale evaluated "manifest" versus "non-manifest" anxiety. The Figure-Drawing Test measured "diffuse-free-floating" versus "inferred or channelized" anxiety. The criteria for the "manifest" extreme on Taylor's Scale were found to correspond very closely to the criteria and concepts underlying the "inferred or channelized" extreme of the Figure-Drawing test. The correlation between the two, as mentioned before, was significantly positive.

Anxiety is not a specific factor but rather a complex term with many deep and intricate connotations. In measuring, the techniques seem to have approached anxiety from different angles. It is reasonable to suppose that the clinical judgment, the Figure-Drawing test, and the Taylor Anxiety Scale, each evaluates a different aspect of the "anxiety-complex." The overlap between the three various aspects of anxiety in the way they manifest themselves, might have accounted for the significant correlation between some of the measures. In this event the absence of correlation between the three methods is not incompatible with their value as reliable and valid tools for estimating anxiety. In general, the complexity of anxiety puts some limitations on the findings related to it since an adequate definition and clear boundaries for its signs and symp-

toms are as yet far from precise. The term "anxiety-complex" is suggested for use in this and other studies of similar nature.

Summary

Twenty-four patients presenting varying degrees of anxiety were selected from the psychiatric unit of the Kings County Hospital Center. Each patient was subjected to evaluation for the degree of anxiety using the clinical judgment, the Figure-Drawing test and the Taylor Anxiety Scale. Except for the significant positive correlation of Taylor's Anxiety Scale to one of the Figure-Drawing's scales, the intercorrelations between the various measures of anxiety were not significant. Although each of the methods may be a valid and a reliable estimate of anxiety yet they all differ in the thinking behind them, their concepts, and the aspects of anxiety that they tackle and evaluate. The non-specificity and complex nature of anxiety is indicated and the concepts, diagnosis, and methods of its evaluation are pointed at as areas in need of further exploration.

Acknowledgment: The author wishes to acknowledge with gratitude the assistance of Hanna F. Faterson, Ph.D., and Rochelle Wexler, Ph.D.

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Accelerating Treatment in Depressed Patients with Multiple Antidepressant Agents

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For over three years psychiatrists have had at their disposal a number of excellent and well proven antidepressant agents. Commencing with Marsilid in 1957 followed by Marplan in 1958 and in 1959 Nardil, Niamid, Catron and Tofranil made their appearance on the scene. By now, many hundreds of thousands of cases have been reported showing substantial benefits from these antidepressant agents. Although these compounds have assumed a major role in the treatment of the depressed patient, earlier enthusiasm for these drugs must now be looked upon with some reserve as they have not and will not in the immediate future, at least, replace electroshock therapy which is the choice of all psychiatric therapies for the depressed patient.

Many enthusiastic reports have included beneficial results in patients who had failed to improve with electroshock therapy but showed excellent response on antidepressant agents. Many of us have recognized for years a certain number of "hard core" patients who have resisted electroshock therapy and proved disappointing, until antidepressant agents provided the key to recovery.

In many cases the nature of depressed reactions tends to be a recurring one and I have been faced in practice with the return of patients who are now suffering a recurrence of their depression which was so successfully treated by an antidepressant agent a year or two ago. By the time the patient returns the second time he has invariably resorted to the antidepressant which had been successful before, and has given it a fair trial being fully aware that it may not work immediately and a lag period of two to three weeks is often required before the

Pt.	Age	Diagnosis	Previous Treatment	Synergistic Agent	Onset of Imp'v'nt*	Result	Maint. Schedule Daily
G.L.	43	PPDR	Nardil 15 mg. t.i.d.	Catron 6 mg. t.i.d.	4 days	E	Nardil 5 mg.
M.W.	74	IDR	Niamid 25 mg. t.i.d.	Catron 6 mg. b.i.d.	14 days	E	Niamid, Catron
D.H.	48	DR	Tofranil 15 mg. t.i.d.	Catron 6 mg. b.i.d.	8 days	E	Catron 6 mg.
E.D.	72	IDR	Tofranil 15 mg. t.i.d.	Catron 6 mg. daily	14 days	E	Tofranil 15 mg.
D.R.	56	DR	Marplan 10 mg. t.i.d.	Catron 6 mg. b.i.d.	7 days	E	Marplan 10 mg.
R.G.	32	PPDR	Nardil 15 mg. t.i.d.	Catron 6 mg. b.i.d.	4 days	G	Catron 6 mg. Nardil 5 mg.
H.S.	45	RD	Niamid 25 mg. q.i.d.	Catron 6 mg. b.i.d.	5 days	G	None
L.C.	68	IPDR	Nardil 15 mg. t.i.d.	Catron 6 mg. b.i.d.	12-14 days	E	Catron 6 mg. Nardil 5 mg.
H.F.	40	RD	Nardil 15 mg. t.i.d.	Catron 6 mg. b.i.d.	7 days	G	Catron 6 mg. Nardil 15 mg.
O.G.	50	RD	Nardil 15 mg. t.i.d.	Catron 6 mg. b.i.d.	10 days	E	None
L.C.	60	IDR	Marplan 10 mg. t.i.d.	Catron 6 mg. daily	14 days	E	Marplan 10 mg. b.i.d.
S.K.	38	RD	Niamid 25 mg. q.i.d.	Catron 6 mg. b.i.d.	12 days	G	Niamid 25 mg. b.i.d. Catron 6 mg.
N.B.	26	RD	Niamid 25 mg. q.i.d.	Catron 6 mg. t.i.d.	5 days	E	Catron 6 mg.
J.A.	66	IPDR	Marplan 10 mg. t.i.d.	Catron 6 mg. b.i.d.	14 days	G	Marplan 10 mg. b.i.d.

*Indicates the day on which improvement obviously began. At this time the accelerator program was reduced and in many cases eliminated unless Catron was to be used as maintenance therapy. With the exception of one patient, all are being kept on a depressive prophylaxis program of an antidepressant.

E = Excellent; G = Good
DR = Depressed reaction
IDR = Involutional depressed reaction
IPDR = Involutional psychotic depressed reaction
PPDR = Postpartum depressed reaction
RD = Reactive depression

therapeutic benefits are seen. When this patient comes to the office unimproved by this experience, one is sometimes at a loss to know what to do.

Invariably the patient feels that electroshock is still a major procedure and may protest against its use. Having seen the disappointing results that follow when one simply institutes the same practice of prescribing the same antidepressant in the same amount as formerly and failing to show substantial improvement, I struck upon the idea of utilizing one of the "psychic energizers," as they are called, to perhaps facilitate the recovery of the patient. Four patients listed below have been benefited by this multiple monoamine oxidase inhibitor therapy, and are representative of about 20 patients successfully treated for recurrent depressions with multiple antidepressant agents.

Case 1. G.L. Diagnosis: Recurrent depression. This patient had failed to recover from 28 electroshock treatments in the winter of 1958. Nardil, 15 mg. t.i.d. produced a dramatic improvement in about one month early in 1959 and the patient enjoyed the best health in years. Her depression, however, recurred late in 1959 and Nardil given as formerly was not effective. Catron 6 mg. b.i.d. for five days was prescribed to supplement the Nardil. Within five days the patient showed considerable improvement. Therapy continued at the level of 6 mg. Catron daily and Nardil 15 mg. t.i.d. and within three weeks very substantial improvement resulted.

Case 2. B.C. This patient had a recurrent psychotic depressed reaction which was successfully treated four years before with electroshock therapy. The condition recurred severely in 1959 and the patient refused to be hospitalized and refused to submit to electroshock. She was given Nardil 15 mg. t.i.d. and made moderate improvement but, after six weeks, one felt there was still room for further improvement. Catron 6 mg. b.i.d. was added to this patient's medication and within a week noticeable improvement had materialized. She was then maintained for a further two weeks on 6 mg. of Catron and one Nardil 15 mg. daily and has been well since that time and has not required antidepressant medication to maintain recovery.

Case 3. O.G. Recurrent depressed reaction: This patient was successfully treated with electroshock in 1956. Her depressive symptomatology returned in 1959 and the patient was put on Niamid 25 mg. q.i.d. but did not make adequate recovery within a four week period. The patient's despondency, suicidal preoccupation and psychomotor retardation with feelings of guilt, was essentially unchanged.

Catron was used to augment this patient's antidepressive therapy in the amount of 6 mg. tablets daily in addition to the Niamid. One week later there was marked improvement in this patient's behavior in terms of activity, mental content and the renewal of former interests.

Case 4. E.W. In this patient a recurrent depressed reaction was successfully treated with electroshock in 1957. In late 1959 her depressive symptoms returned following prolonged hospitalization for a fractured hip which united poorly. This appeared to be a contraindication to electroshock and chemotherapy was therefore the treatment of choice. Niamid 25 mg. q.i.d. was prescribed for a period of thirty days. During this time, there was moderate improvement and the patient showed increase of appetite, improved sleeping habits but still remained totally depressed, expressing suicidal ideas to her husband and at one time, did take her night time medication to excess. The patient's treatment was supplemented with 6 mg. Catron, t.i.d. in addition to 100 mg. of Niamid daily; and within two weeks she showed substantial improvement. A maintenance therapy has been continued 6 mg. Catron and two 25 mg. of Niamid, b.i.d.

Maintenance therapy utilizing Nardil 5 mg. once or twice daily has been recommended following successful treatment on full therapeutic dosage of 15 mg. t.i.d. A number of recurrent depressions are currently being maintained on a "Depressive Prophylaxis" regime of Nardil 5 mg. daily.

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Summary

From our experience in treating many hundreds of patients with antidepressant agents, it is our belief that we will see recurrences of earlier depressive state. Restitution of the medication does not prove as effective as in the first instance. This discourages the patient to continue on the same therapy since there is no noticeable improvement. Therefore a more ambitious program must be considered.

My experience has been contrary to that of Ayd.[1] At first I was concerned that perhaps utilizing two antidepressant agents might possibly produce toxicity where none had appeared when the agents were used singly. This has not occurred and with close control and supervision of the medication undesirable side effects can be avoided.

ADDENDUM

Since the above manuscript was prepared, a number of cases have been reported in the literature of "cross reactions." These occur when monoamine oxidase inhibitors have been substituted for, or are used concurrently with imipramine-like drugs. This reaction is generally acute and takes place after one or two doses of the medication have been taken. Marked and profuse sweating, hypothermia, circulatory collapse, prostration and weakness are manifest. Hydrazine drugs should be used with caution in association with alcohol, anesthetic agents (including procaine), thiazide, ganglion blockers and phenylephrine. The combination of two amine oxidase inhibitors has, in my experience, given rise to no problems.

Catron was used as the accelerator or synergistic agent because of its rapid action, its amphetamine-like effect and its reliability as a psychic energizer. However, this medication has been withdrawn from the market and is no longer available.

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Assessment of a New Antiparkinson Drug (UK-738) in the Thioperazine-Induced Extrapyramidal Reaction

WILLIAM MANDEL, M.D., BESSIE CLAFFEY, M.D.,
and LESTER H. MARGOLIS, M.D.

The effectiveness of a new antiparkinson drug in the phenothiazine-induced extrapyramidal reaction may be evaluated by three methods. The first is to treat reactions as they are induced; the second is to treat reactions as they occur after withdrawing maintenance antiparkinson drug. In both of these methods, the new drug may be compared with other antiparkinson drugs by open or blind techniques, either with or without placebo controls. A third method is to substitute the drug for the maintenance antiparkinson drug and to record recurrences; success of this method depends on a high recurrence rate following withdrawal of the maintenance antiparkinson drug.

This third method was chosen as the procedure for evalating the new antiparkinson agent, UK-738. The thioperazine-induced extrapyramidal reaction was selected because this phenothiazine derivative produces a rapid onset and high incidence of extrapyramidal reactions.[1] A placebo-treated group was included to determine the incidence of recurrence; this phase of the study has been reported.[2] Two dosages of UK-738 were used to compare its effectiveness with triphenidyl, the antiparkinson drug used for maintenance therapy.

Methods and Materials

Forty chronic schizophrenic patients, 20 women and 20 men, whose ages ranged between 18 and 59 years, the mean being 41 years, comprised the patient sample. All patients were receiving thioperazine and triphenidyl, the latter having been given for the control of thioperazine-induced extrapyramidal reactions. Thioperazine had been administered for four months and triphenidyl had been given for at least three months. The daily dose of thioperazine ranged between 3 and 120 mg., the mean being 31 mg.; the daily dose of triphenidyl ranged between 5 and 20 mg., the mean being 13 mg.

The study was performed in a double blind manner with the placebo and UK-738 (2 mg. tablets) randomly assigned so that 20 patients, 10 men and 10 women, received each drug. The patients were clinical assessed for the presence of extrapyramidal symptoms and signs prior to the study. The unknown drugs, in a dosage of 1 tablet t.i.d., were then abruptly substituted for triphenidyl. Reassessments for clinical evidence of extrapyramidal reactions were performed daily during the 20 days of the study. When extrapyramidal symptoms and signs recurred, it was planned to increase the dosage of the unknown drugs to 2 tablets t.i.d. before reverting to the original triphenidyl dosage. Replacement with the original triphenidyl dosage was done if the extrapyramidal reactions worsened.

Results

All of the 10 wimen and 6 of the 10 men (80 per cent) receiving placebos redeveloped extrapyramidal reactions and had to be restarted on their previous maintenance triphenidyl dosage. Of the patients receiving UK-738, 4 women and 2 men (30 per cent) had to be restarted on their previous triphenidyl dosage. By the fourth study day, significantly more of the patients treated with UK-738 were still receiving this drug than was true for the placebo-treated patients who were still receiving placebos. The numbers of patients, and time of discontinuing of drugs, are listed in Table I.

TABLE I

Numbers of Patients in Whom Unknown Drugs Were Discontinued

No. Patients	0-5 Days	6-10 Days	11-15 Days	16-20 Days
Placebo (16 patients)	5	6	4	1
UK-738 (6 patients)	0	3	2	1

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Data concerning the 20 UK-738-treated patients are listed in Tables II, III, and IV. The average daily maintenance triphenidyl dosage for the patients in whom UK-738 had to be discontinued was 16 mg. It was 14 mg. for those in whom UK-738 had to be increased to 2 tablets t.i.d. (12 mg. daily) and 11 mg. in those in whom the UK-738 dosage remained at 1 tablet t.i.d. (6 mg. daily).

The previous maintenance triphenidyl dosage was sufficient to control the reaction in the six patients in whom UK-738 had to be discontinued. UK-738 was well tolerated in all patients and no side reactions were observed from its use.

TABLE II

Six Patients in Whom UK-738 Was Discontinued

Patient	Sex	Thioperazine Dose (mg./day)	Maintenance Triphenidyl Dose (mg./day)	Day UK-738 increased to 2 t.i.d.	Day UK-738 discontinued
E.A.	F	40	15	4	7
N.T.	F	30	20	6	7
G.B.	F	8	15	3	8
L.H.	F	6	15	7	13
W.C.	M	30	15	5	13
M.S.	M	45	15	5	19

TABLE III

Seven Patients in Whom UK-738 Was Increased to 2 Tablets t.i.d. (12 mg. Daily)

Patient	Sex	Thioperazine Dose (mg./day)	Maintenance Triphenidyl Dose (mg./day)	Day UK-738 increased to 2 t.i.d.
J.J.	M	30	10	3
R.R.	M	8	15	3
M.M.	F	40	10	4
L.F.	M	60	15	7
C.S.	M	40	20	10
C.R.	F	40	15	12
E.L.	M	24	10	19

TABLE IV

Seven Patients in Whom UK-738 Dosage Remained at 1 Tablet t.i.d. (6 mg. Daily)

Patient	Sex	Thioperazine Dose (mg./day)	Maintenance Triphenidyl Dose (mg./day)
E.B.	F	45	15
M.B.	F	40	10
N.R.	F	120	15
M.S.	F	15	5
S.B.	M	60	10
J.C.	M	3	10
T.G.	M	30	15

Discussion

UK-738 is a synthetic compound which has been modified from atropine. The main change is that the organic ester formed by tropic acid has been replaced by a benzhydrylether linkage. May and coworkers[3] treated 30 patients with phenothiazine-induced extrapyramidal reactions (24 with pseudo-parkinsonism, 5 with akathisia and one with a dystonic reaction) with daily dosages of UK-738 ranging from 1 to 4 mg. Satisfactory control was rapidly attained in all but one patient. The only side reaction reported was dryness of the mouth.

Our data do not permit direct dosage comparisons but suggest that UK-738 is approximately equivalent on a mg. for mg. basis to triphenidyl as maintenance therapy for extrapyramidal reactions. This is indicated by the fact that the seven patients who previously required an average triphenidyl dosage of 14 mg. (range of 10 to 20 mg.) needed 12 mg. of UK-738 for control and that the six patients who previously required an average daily triphenidyl dosage of 16 mg. (range of 15 to 20 mg.) were not controlled by 12 mg. of UK-738. It cannot be said that the UK-738 dosage of 6 mg. which was adequate in seven patients was more effective than the previous daily triphenidyl dosage of 11 mg. (range of 5 to 15 mg.) for it is possible that the reaction might have been controlled at either lower triphenidyl dosages or that the triphenidyl was not required. This latter possibility was not tested.

We were unable to find any report in which the primary method of evaluating a new antiparkinson drug was similar to the one we employed. This method can only be used where there is a high recurrence rate following withdrawal of maintenance antiparkinson drug and where placebo controls are used to document the actual recurrence rate. Comparison of dosages of the new and the maintenance antiparkinson can be made if the dosage of the new drug is varied, if care has been taken to establish the correct

dosage of the maintenance antiparkinson drug, and if all antiparkinson drugs are withdrawn in patients who show no recurrence following substitution of the new drug.

Summary

A placebo and UK-738, a new antiparkinson drug, were abruptly substituted for maintenance triphenidyl therapy which had been given for the control of thioperazine-induced extrapyramidal reactions. Within the 20 days of the study, this reaction recurred in 16 of the 20 placebo-treated patients (80 per cent) and in 6 of the 20 patients (30 per cent) receiving UK-738. The difference is statistically significant. Although in this small number of patients, UK-738 appeared to be approximately equivalent to triphenidyl on a mg. for mg. basis as maintenance therapy for the extrapyramidal reaction, the data do not permit accurate dosage comparisons. UK-738 was well tolerated in the dosage range of 6 to 12 mg. daily.

UK-738 (N-ethyl-nortropine-benzhydrylether-hydrobromide) and placebo used in this study were supplied by Mr. H. Althouse, Sandoz Pharmaceuticals.

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Comparative Effects of Librium and Taractan on Behavior Disorders of Mentally Retarded Children

T. L. PILKINGTON, M.R.C.S.

"Librium" is a derivative of 3H-1, 4-benzodiazepine, and is a psychosedative unrelated chemically to other tranquilizers. Kinross-Wright[1] reported its value in reducing anxiety and tension in the psychoneuroses, and Voekel[2] demonstrated its marked superiority to meprobamate in sedating the agitation of many psychotic conditions. Kaim and Rosenstein[3] have drawn attention to its anticonvulsant properties, and its effect on the EEG has been investigated by Armayor.[4]

"Taractan" is a derivative of the thioxanthene series, and is described as a "broad-spectrum" psychothopic drug with thymoleptic properties combined with central sedation and reduction of anxiety. Kruse[5] reported its value in 30 patients suffering from chronic depression of mixed psychotic etiology, and Feer[6] confirmed the beneficial affective response in a trial on 88 patients, including a number of schizophrenics. Boittelle et al.[7] suggested that it produced a rapid resolution of manic attacks, and Van Herck[8] found improvement in the behavior of all his mentally subnormal patients on a relatively high dose.

It has been suggested that both Librium and Taractan have beneficial effects on the behavior disorders of mentally retarded children, especially those with psychopathy and epilepsy. In view of the above known effects, therefore, the present trial was carried out to investigate further the value in different categories of the disturbed retarded child.

Procedure and Dosage

Twenty-one mentally retarded children in hospital were selected because of sufficiently disordered behavior to be nursing problems. Their I.Q.'s ranged from 30% to 50% and ages from six years to adolescence. They were divided clinically into those showing severe tension and agitation (6), those who seemed to be primarily cyclothymic (7), and

From Cranage Hall Hospital, Cheshire, England.
*Trademarks of Roche Products, Ltd.

those with "pure" (undifferentiated) behavior disorders (5). The remaining three had additional schizophrenic symptoms, and, out of the total group, seven suffered from epilepsy, on whom preliminary EEG's were performed. Taractan was then given in doses ranging from 30-60 mg. per day in divided doses to the cyclothymic group, and Librium, 40-60 mg. per day, to the remainder, including the epileptics.

The trial was continued for eight weeks. during which all bloods and urines were periodically examined, and showed no abnormalities. The EEG's on the epileptics were repeated at six weeks and again a month after the cessation of the trial. Special mental assessments by the same observer were made at the start, 4 weeks, 6 weeks, 8 weeks, 12 weeks and 18 weeks, and all previous drugs were stopped during the trial apart from the continuance of phenobarbital as an anti-convulsant.

Results and Side Effects

There were no side effects with Taractan, apart from a temporary drowsiness in one patient; four of the 14 patients on Librium showed drowsiness at the beginning which disappeared on reducing the dose. One patient's incontinence was made worse, and another patients, who was not regarded as an epileptic, had a grand mal seizure when the drug was stopped.

Out of the total group on both drugs, 57% showed some behavioral improvement, in some cases a great deal (e.g., nursing staff requested a patient be put back on the drug, a mother reported child's vastly improved behavior on leave). Within the different clinical groupings, however, there was marked disparity of effect, as shown in Table I. Librium improved 83% of those patients with severe tension and agitation, but had little effect on the "undifferentiated" behavior disorders, and made the schizophrenics worse. Taractan produced an 86% improvement in those patients with cyclothymia.

A striking effect was seen in the EEG's of the seven epileptics on Librium (see Table II), five of whom became normal, and the remaining two showed improvement. Four weeks after the end of the trial all the EEG's had reverted to their original abnormal state, and only one of the three patients who showed mental improvement retained this after the trial. Although the total number of fits was low in any case, it is significant that they were reduced to 10% of their previous level during the trial.

Discussion

The results confirm that both drugs have a place in the treatment of the behavior disorders of mentally retarded children, but, as in the use of so many new drugs of the tranquillizer and thymoleptic type in mental subnormality, it is necessary to investigate the underlying causes, and particularly the in-

TABLE I

MENTAL CONDITION AND DRUG	No. Pts.	Improved	Same	Worse	% Imp'v't
Severe tension with agitation (Librium)	6	5	0	1	83
Undifferentiated behavior disorders (Librium)	5	1	4	0	20
Schizoid (Librium)	3	0	1	2	0
Cyclothymia (Taractan)	7	6	1	0	86

TABLE II

Epileptics on Librium

No. Pts.	E.E.G. before start: Typically EP	E.E.G. before start: Indefinitely Abnormal	E.E.G. at 6 weeks: Now normal	E.E.G. at 6 weeks: Some Improvement	E.E.G. at 6 weeks: Unchanged	Mental state at 6 weeks: Improved	Mental state at 6 weeks: Same	Mental state at 6 weeks: Worse	Drug stopped at 8 weeks	E.E.G. at 12 weeks: Normal	E.E.G. at 12 weeks: Abnormal	Mental state at 12 weeks: Improved	Mental state at 12 weeks: Same	Mental state at 12 weeks: Worse	Average monthly fits during previous year	Average monthly fits on Librium
7	4	3	5	2	0	3	3	1		0	7	1	6	0	1.1	0.1

dividual reaction-types.[9] When tentative clinical groupings are made, it is seen that Librium has its main effect on patients with severe tension, and Taractan produces excellent results in the cyclothymes.

Comment must be made upon the remarkable effect of Librium on the EEG's of the epileptics, whereby they were all made normal or nearly normal, even if they did not show frank epileptic changes at first. This is apparently accompanied by a considerable reduction in fits, and, to a lesser degree, by mental improvement, all of which disappears on stopping the drug. This may be partially due to potentiation of the barbiturates but this antiepileptic use of Librium certainly appears worthy of further investigation.

Summary

The uses of two psychotropic drugs, "Librium" and "Taractan," on the behavior disorders of mentally retarded children were investigated. It was found that Librium had pronounced value for those with agitation and underlying tension, and Taractan stabilized the mood of the cyclothymes. Additionally, Librium was found to have a remarkable facility for normalizing the EEG's of epileptics. The necessity for preliminary clinical assessments of the mentally subnormal into tentative reaction type is stressed.

Acknowledgments: I am grateful to Roche Products Ltd. for supplying the drugs, and I am particularly indebted to Dr. P. M. Jeavons of All Saints Hospital, Birmingham, England, for commenting upon the EEG's.

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Dimensions of Change in Psychiatric Symptomatology

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In three separate multivariate studies based on data derived from both chronic and acute patient populations, a surprisingly consistent group of symptom-change factors has emerged. The purpose of these analyses was to identify primary psychiatric symptoms which are sensitive to change during drug treatment. The present paper describes the symptom-change factors and discusses an initial attempt to develop a psychiatric rating scale utilizing the symptom constructs identified in the analyses.

The foundation for the present work was laid by Dr. Maurice Lorr and his associates who developed the comprehensive symptom and behavior rating scales which provided data for our analyses.[1] Two of the analyses were undertaken on change-scores for the 40 items of the psychiatric interview portion of the original Lorr scale—the MSRPP.[2,3] The third analysis involved item change scores from the new and revised Lorr scale—the Inpatient Multidimensional Psychiatric Scale.

The approach that we have taken in attempting to develop an instrument specifically suited to the evaluation of symptom change during drug treatment is based upon the assumption that the experienced clinical psychologist or psychiatrist perceives the patient in terms of a set of somewhat abstract symptom concepts. Through empirical analysis of change-scores on molecular symptom rating items, we have attempted to identify symptom molecules which change together as the condition of the patient changes. Through the process of "interpretation," we have attempted to identify the meaningful symptom construct or concept which best represents each symptom-change cluster. Finally, we have attempted to construct a rating scale which will permit the experienced clinician to rate the psychiatric condition of the patient using the same type of abstract symptom concepts which we believe that he normally employs in considering a patient.

The unique direction of our approach is best recognized by comparison with the comprehensive, molecular symptom rating scales. The latter approach, which has proved very valuable, has attempted to remove the conceptual and perceptual contribution of the rater through concentrating attention on molecular bits of symptomatology and behavior which can be rated objectively. The molecular bits are then synthesized statistically into composite factor scores. The approach which we are investigating assumes that the trained perceptual and conceptual abilities of the observer can be utilized to effect the synthesis of symptom bits and that objective patient evaluation can be accomplished more meaningfully and more efficiently in terms of higher order symptom constructs.

A single 7-point rating scale was developed for use in characterizing the psychiatric condition of the patient in each of the discrete symptom-change areas. To avoid bi-polar type scales, some symptom continua were divided into two segments, each represented by a single scale. Grandiosity and inferiority and motor excitement-retardation are examples of this type of division. The 14 scales required ratings on the following symptom constructs:

(1) Physical complaints
(2) Tension-anxiety
(3) Feelings of inferiority
(4) Emotional unresponsiveness
(5) Conceptual disorganization
(6) Guilt feelings
(7) Mannerisms, posturing
(8) Grandiosity
(9) Depression of mood
(10) Hostility
(11) Paranoid suspicion
(12) Hallucinatory behavior
(13) Motor retardation
(14) Motor excitement

From the Veterans Administration Central Neuropsychiatric Research Laboratory, Perry Point, Maryland.

It would be recognized that these concepts correspond to the interpretation of empirical factors, several of which are directly equivalent to Lorr factors and a few of which correspond to additional factors which were found in the analysis of change-scores. In our initial attempt to develop a rating scale capable of evaluating patient change, we conceived of the task of the rater as involving an explicit synthesis of discrete bits of behavior. Each concept was elaborated in terms of the specific components associated with it, and the rater was asked to make a global rating of the general severity of symptoms in each specific factor area. For example, the scale item concerned with tension and anxiety was worded as follows:

"*Tension-anxiety.* The extent of symptoms of tension and anxiety ranging through: mild nervousness, fidgeting; occasional tremors or twitching; sweating; frequent tremors or twitching; occasions of apprehension in the interview setting; pervading apprehension during the interview; paralyzing anxiety throughout the interview."

For conceptual disorganization the scale item was worded as follows:

"*Conceptual disorganization.* The extent of disruption of thought processes, ranging through: irrelevance; inconsistency; confusion; disconnectedness; disjointedness; autism and bizarreness; complete confusion and lack of intelligibility."

The task in each case was to consider all of the specific symptoms and behaviors falling within a conceptual domain and to arrive at a judgment of severity of pathology in that area. These fourteen scale items represented our first attempt at a brief rating scale. On the basis of subsequent empirical results, these items have now been modified, and we have what we believe is an improved form of the brief scale under empirical evaluation at the present time.

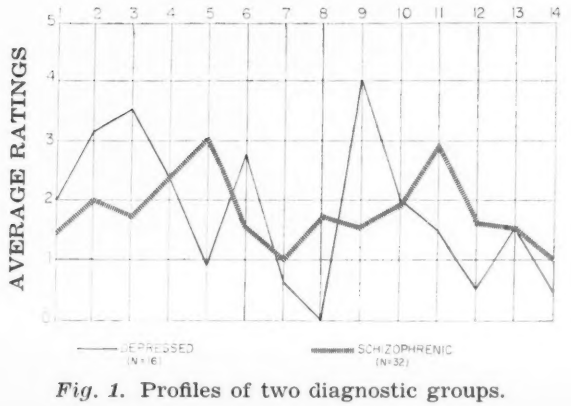

Fig. 1. Profiles of two diagnostic groups.

Inter-Rater Reliability

A total of 130 ratings were obtained for 45 patients. The majority of these were based on a routine diagnostic staff meeting. Ratings made by one psychiatrist and one psychologist were randomly selected for each patient and reliability coefficients were

TABLE I

Inter-Rater Consistency

Based on Two Raters on Each of 45 Patients.

ITEM	*r*
1. Physical complaints	.75
2. Tension-Anxiety	.37
3. Inferiority feelings	.55
4. Emotional unresponsiveness	.52
5. Conceptual disorganization	.64
6. Guilt feelings	.38
7. Mannerisms, posturing	.62
8. Grandiosity	.68
9. Depression	.66
10. Hostility	.60
11. Paranoid suspicion	.58
12. Hallucinatory behavior	.70
13. Motor retardation	.60
14. Motor excitement	.51

TABLE II

Significance of Discrimination Between Diagnostic Groups

ITEM	A&B F	A&C F	B&C F
1. Physical complaints	2.27	2.66	.01
2. Tension-Anxiety	1.39	11.32†	3.41
3. Inferiority feelings	2.01	14.38†	3.51
4. Emotional unresponsiveness	1.10	.06	.33
5. Conceptual disorganization	.03	30.33†	26.76†
6. Guilt feelings	1.36	12.09†	2.46
7. Mannerisms, posturing	.34	.44	1.53
8. Grandiosity	.00	11.38†	18.90†
9. Depression	4.08	45.73†	9.82†
10. Hostility	.00	.30	.16
11. Paranoid suspicion	.14	6.50*	8.45†
12. Hallucinatory behavior	.78	3.50	4.77*
13. Motor retardation	.93	.07	.28
14. Motor excitement	1.91	.56	3.55

GROUP A (N = 20): Schizophrenic
GROUP B (N = 12): Schizophrenic: paranoid
GROUP C (N = 16): Depressed

†.01 Level of confidence.
*.05 Level of confidence.

obtained using the product-moment correlation coefficient. All of the raters had had no previous experience with this scale. The inter-rater reliabilities for the 14 scale items are presented in Table I. Considering that these coefficients represent consistency between two raters on single 7-point scales, some of the coefficients appear reasonably high. Physical complaints, conceptual disorganization, mannerisms and posturing, grandiosity, depression, hostility, hallucinatory behavior, and motor retardation were items for which true differences between patients accounted for more than 60 per cent of the total variance in ratings.

The reliability coefficients presented in Table I in conjunction with first-hand clinical experience in use of the tentative brief scale resulted in the revised version which is now being tested. Each scale item with a reliability of less than .60 was either modified extensively or dropped from the revised scale. Preliminary results indicate that it will be possible to bring the reliability of all the new scales up to an acceptable level.

Validity for Patient Classification

Of 48 patients for whom ratings on the brief scale are available, 12 were classified as paranoid schizophrenics, 20 were mixed and unclassified schizophrenics, and 16 had depressive diagnoses. The potential usefulness of individual scale items in discriminating between diagnostic groups was examined for each of the three diagnostic comparisons. Interestingly enough, no single scale discriminated significantly between paranoid schizophrenics and the general schizophrenic group (Table II). This was not too surprising to us since the general schizophrenic classification is undoubtedly very heterogeneous and the diagnoses may be quite doubtful. The interesting thing is that the depression scale showed the greatest separation between the paranoid and general schizophrenic groups. The finding of a strong depression factor in paranoid schizophrenics is in agreement with other reported results. Notably, Dahlstrom and Prange recently published a comparison of MMPI profiles for depressed and paranoid schizophrenic patients.[1] The depression peak is quite evident in their profiles for paranoid schizophrenics also.

The general schizophrenic group differed significantly from the depressed group on seven out of the 14 scales, and the paranoid schizophrenics differed from the depressed patients to a significant degree on five out of the 14 scales. These areas of difference

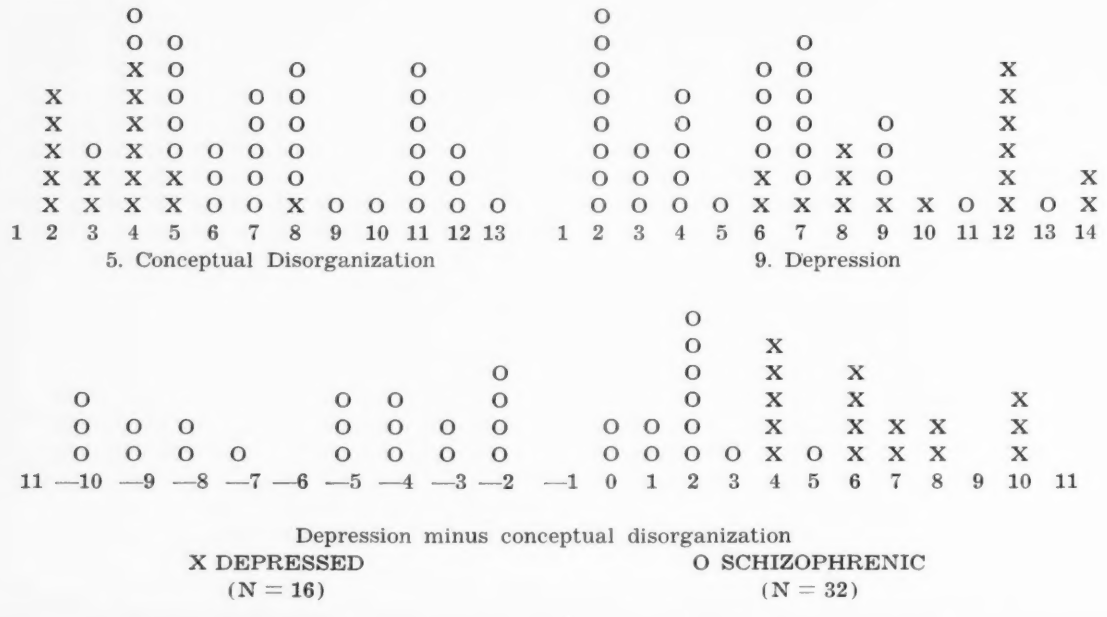

Fig. 2. Separation of schizophrenic and depressed patients with two scale items.

are noted in Table II which presents the F-ratios for the various comparisons.

Since the two schizophrenic groups were not found to differ significantly from each other, they were combined to yield the profiles presented in Figure 1. In general, depressed patients were more tense and anxious, had more feeling of inferiority, more guilt feelings, and much more depression. Schizophrenic patients were higher in paranoid suspicion, conceptual disorganization, grandiosity, and hallucinatory behavior.

Because of the differences between the two diagnostic groups on a number of scale items, an attempt was made to see whether any items or combinations of items would accomplish a differential diagnosis. Figure 2 indicates that the two items on which the groups differed most widely, when used individually, were not very useful in classifying the patients. However, by combining the two scales, depression and conceptual disorganization, only one error of misclassification resulted in attempting to assign the 48 patients to the proper diagnostic groups. This indicates that an essential distinguishing characteristic between depressed and schizophrenic patients consists of the contrast between conceptual disorganization and depressive symptomatology. Considering the fallibility of clinical diagnosis, we feel that this is strong evidence for the potential usefulness of a brief rating scale in quantitative approaches to psychiatric diagnosis.

Primary Dimensions of Differences Between Patients Within Diagnostic Groups

Examination of differences between profiles for different diagnostic groups suggests certain primary dimensions of difference between different types of patients. The next question which concerned us was whether there are certain more basic dimensions of difference between individuals within the groups. The 14 measures were intercorrelated over patients within diagnostic groups to yield the matrix of intercorrelations presented in Table III. Note that the differences between diagnostic groups have been partialled out and that group differences do not contribute variance to the correlations displayed in this table.

The intercorrelations will reveal clustering of scale items which corresponds to certain higher order constructs of psychopathology (Figure 3). "Emotional unresponsiveness," "motor retardation" and "mannerisms and posturing" all involve overt physical manifestations of mental illness. "Inferiority," "depression," and "guilt feelings" are pretty clearly part and parcel of the psychiatric symptom construct of depression. "Paranoid suspicion" and "hostility" are recognized to be jointly involved in a familiar psychiatric syndrome, and "hallucinatory behavior" and "conceptual disorganization" represent another familiar syndrome. The interesting thing about these clusters is that they represent dimensions of difference be-

TABLE III

Within Diagnostic Groups Correlation Matrix

Based on 130 Ratings on 48 Patients: 16 Depressed, 12 Paranoid Schizophrenic, 20 Other Schizophrenic

Item	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Physical complaints	.37	.38	.19	—.05	.27	.05	—.09	.30	.34	—.19	—.01	.22	.10
2. Tension-Anxiety		.43	.23	.33	.28	.19	—.02	.43	.29	.10	.32	.13	.31
3. Inferiority feelings			.36	—.05	.54	.33	—.16	.60	.08	.09	.14	.34	.13
4. Emotional unresponsiveness				.05	.09	.47	—.06	.27	.21	.14	.21	.74	—.20
5. Conceptual disorganization					—.23	.40	.32	—.02	.08	.27	.50	.17	.18
6. Guilt feelings						.00	—.25	.51	.07	.06	.05	.17	—.06
7. Mannerisms, posturing							.21	.07	—.10	.08	.37	.53	.24
8. Grandiosity								—.34	—.01	.16	.21	—.13	.42
9. Depression									.46	.22	.17	.34	—.04
10. Hostility										.68	—.19	—.00	.38
11. Paranoid suspicion											.30	—.02	.06
12. Hallucinatory behavior												.28	.05
13. Motor retardation													—.33
14. Motor excitement													

tween patients within diagnostic groups. Individual schizophrenic patients can be characterized as having a certain degree of motor disturbance, a certain degree of conceptual disturbance, a certain degree of affective disturbance, and a certain degree of interpersonal disturbance. Different patients vary in the relative amounts of these different kinds of disturbance in functioning.

Summary

1. Factor analytic studies of three separate patient populations have identified primary psychiatric symptoms which are sensitive to change during drug treatment.

2. An attempt has been made to construct a brief rating scale in which these primary symptoms are rated by the clinician as abstract symptom concepts.

3. Reliability and validity data, based on 130 ratings of 48 patients are presented. Utilizing these findings, a revised Brief Psychiatric Rating Scale of 16 items has been prepared.

4. Intercorrelations between items, with diagnostic differences partialled out, reveal clusters which correspond to certain higher order constructs of psychopathology.

5. The high degree of success with which two items combined distinguished schizophrenic patients from depressed patients suggested the potential usefulness of a brief rating scale in quantitative approaches to psychiatric diagnosis.

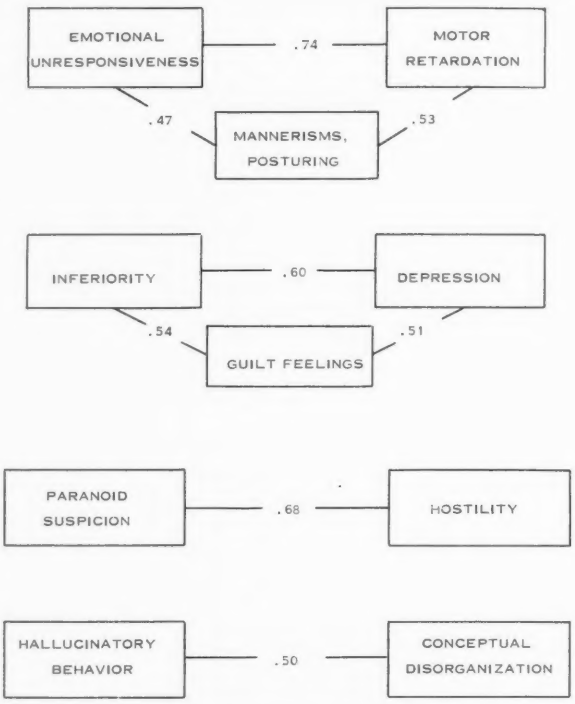

Fig. 3. Symptom Clusters.

Acknowledgments: The authors are indebted to staff personnel of seven VA hospitals who made the 130 evaluations on which this report is based. The following persons arranged for patient evaluation at the hospitals: Rosalie Ging, M.D. (Ann Arbor), Louis Herman, M.D. (Battle Creek), A. Kulick, M.D. (Coatesville), John L. Allen, M.D. (Lebanon), Frederick Schnadt, Ph.D. (N. Little Rock), R. H. Sunderman, M.D. (Perry Point) and John R. Shawver, M.D. (Albuquerque).

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Experiences in the Operation of a Geriatric Hospital

JOHN F. GRAY, M.D.

This paper is intended to outline the development of a geriatric hospital. The hospital discussed is located in a suburb of Tulsa, Oklahoma, and is operated by an internist and myself. The physical plant consists of a main building and cottage buildings located on a wooded, 15-acre area. The structures are of brick construction and were built in the 1920's as a general hospital but after the death of the operating directing physician during World War II it was operated by an osteopath group as a sanitarium until May 1957. The grounds and building are owned by a foundation and the present operation is on a lease arrangement. A total of 58 private rooms are available and the census at present is averaging slightly over 40 patients. The rates run from $300.00 to $500.00 per month, depending on type of room, whether air-conditioned, with or without bath, etc.

Medication beyond laxatives and other minor items are additional. Regular rounds are made by either the internist or myself. Patients may have referring physicians care for them and many do. No charges are made for our services. The staff consists of a business administrator, his secretary, and a chief nurse. A registered nurse is in charge of each 8-hour shift. L.P.N.'s and aides make up the rest of the nursing staff. Some patients may have 24-hour nursing care or for the 8-hour shift from seven A.M. to three P.M. Others are cared for by the regular staff. The ratio of patients to personnel is approximately one to one. The kitchen staff numbers eight, plus dietician, and the maintenance force comprises three workers. Some rooms are carpeted, others have tile or linoleum-type covering, the latter being the more desirable for incontinent patients. Room furnishings vary from case to case. For less sick patients, there is early American maple or cherry furnishings. The rooms for sicker patients are fitted with general hospital beds and like furnishings. Patients may bring in TV or radio if they desire, and in some instances have a favorite desk or chair.

Compensation, insurance, and personal injury liability and malpractice insurance are carried. Pension or retirement benefits have not as yet been set up but it is hoped that in the near future this can be included. Day rooms are air-conditioned and television is provided. Local churches from Sand Springs and Tulsa conduct weekly services, and the ministers are at liberty to call at any time. Visiting from the family is the same as in other hospitals except for isolated incidences where visitors are upsetting to the patients.

An accountant checks our books and furnishes a report each month to keep us informed regarding the financial standing of the hospital. The hospital was started from bare rooms; all furniture, sterilizers, bedpan sterilizers, floor polishers, kitchen equipment (stoves, refrigerators, etc.), and dishes were purchased. For the first 18 months personal subsidation was necessary to meet payrolls, new equipment, insurance, etc. Since that time it has carried itself but has not yet been able to reach a paying basis as new or additional equipment continue to be necessary with increased patient loads. No Hill-Burton or small business money has been drawn on although these funds are available. Local banks have provided the financing. Our administrator has authority and responsibility of general operation. The chief nurse has the authority and responsibility for nursing care subordinate to the administrator. Our patients range in age from 54 to 93, with a ratio of two women to one man. Their presenting conditions range from Parkinson disease with complicating conditions; strokes that are bedfast; arteriosclerotica and senility.

Our program of care is adapted to the individual needs of the patient. Recreational and occupational activities are attempted in all instances. We find that this takes a

Read at Southern Psychiatric Association at Virginia Beach Oct. 2, 1960.

great deal of pushing on the part of the personnel. The group as a whole would remain inactive if allowed to do so. Our grounds are spacious and afford the opportunity for walking for all ambulatory patients, however very few if any of this group show interest in going for walks. An area of a hundred feet around the main building would furnish all the space that is actually used. Birthdays and anniversaries are celebrated by the group. Church affords the main interest of all. Patients who possibly can, dress and either walk or go in wheel chairs to a large day room where the services are held. One notes a joining-in of the group in hymn singing and attention to sermons, even in the patients in whom there is some question as to how much they comprehend.

The combination dayroom and TV room, the center of all social activity, can be divided. The dominant matron in the group presides in the TV room, selecting the program and her favorite chair. Thus far no male has challenged her authority. Considerable anxiety is aroused in many instances when some patients feel that others are getting more attention from nurses and doctors. Past history of such patients is usually of a lifelong self-centered nature. Kindness and tolerance by nursing personnel are among the most important factors in care of an older age group. The demands of many for reassurance is endless. The aphasic stroke is most difficult and the nurse's or physician's trivial act of checking the pulse and looking at the tongue can be very reassuring to these elderly patients. Barbers make regular visits to the hospital and beauticians come on regular appointments. Even a 93-year-old lady is interested in her appearance, and no doubt, the added individual attention is a factor in lifting her morale.

The problem of medical management rests with the referring physician, or he may, in turn, delegate this responsibility to us. We find most patients at time of admission have been eating poorly and in many cases are malnourished. Some strokes require tube feedings at onset. Many have been living alone and this, in most instances, accounts for their poor state of nourishment; many need tube feeding. We routinely place such cases on parenteral B-complex, iron or B-12 if needed. The patient with confusion or memory defect is placed on L-glutavite or a similar product, such as nicotinic acid and metrazol. Barbiturates are withdrawn and tranquilizers are substituted if necessary. We use Thorazine, Sparine, Trilafon, Phenergan, Mellaril, Pacatal, Vesprin, Equanil, Deprol among others. Sparine and Phenergan are the most frequently used. Librium has been used cautiously, due to its tendency to cause loss of equilibrium. Placebos are used both orally and parenterally. Diuril is used in hypertensive and decompensated cases. Doriden in combination with Phenergan is used in the patients with difficulty in sleeping. Energizers such as Nardil, Marplan, Tofranil, are used with caution in depressed situations.

In disturbed patients some combination of tranquilizers is found to be effective, and this is usually individualized. A sound-proof room is available for disturbed or noisy patients, until their situation can be brought under control. This enables one to sedate patients gradually rather than overwhelming them with drugs, as would be the case when other patients and nurses want them to be quieted down immediately. Antibiotics are used as indicated for respiratory and urinary infections. Incontinent patients have indwelling catheters for bladder and wear diaper-type pads for bowels. Feeder-type patients require much more attention than others due to their complete helplessness. Bed sores are treated by dryness, open air, tincture of benzoin.

In general I can say the experience of setting up the above type operation has been gratifying, even though not profitable. However, I feel that this, too, is a distinct possibility in the future. The need in our community and in any community is increasing and it is the responsibility of the medical profession to provide the means of satisfying this need.

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Eastern Psychiatric Research Association Proceedings

Psychiatry in the Near East and Far East

WILLIAM HOLT, JR., M.D.

On July 1, 1960, 16 members of the Eastern Psychiatric Research Association and nine wives and daughters began a group West-to-East World Tour by jet planes with six major stops in the Near and Far East, for scientific programs in which its members participated. The host countries' medical colleges shared in these scientific exchanges of viewpoints on psychiatry in Tokyo, Hongkong, Bangkok, New Delhi, and Jerusalem. At this last point the group divided to cover Europe from Moscow to Madrid prior to returning to New York. The author chose Athens and Istanbul as stops for further study of psychiatric facilities for patient care and post graduate training.

After shakedown stops in Los Angeles and Honolulu the group visited the University of Tokyo Psychiatric Clinic of Professor Haruo Akimoto and the Tokyo Metropolitan Matsuzawa Hospital. Good polygraph research was in progress at Dr. Akimoto's Clinic. The 1120 bed Matsuzawa Hospital built in 1919 had a highly productive farm and occupational therapy industries, and a hopeful, quiet, dignified but plain atmosphere where color was absent except in the flowered walks and attractive textile weaving.

The Japanese Neuropsychiatric Society gave a joint scientific meeting at which very capable translators for Japanese speakers helped us to appreciate the high caliber of our Japanese colleagues' papers and comments on our own contributions. The reception and social contacts made us feel we were among the most able, friendly and polite people we had ever met.

The number of mental hospital beds available in Japan is far lower than we expected. The patient population showed a greater predominance of schizophrenia (72%) and a lower incidence of organic psychoses (5.1%) than is usual in U.S. state hospitals. Noteworthy was the fact that general paretics outnumbered manic depressives by more than 5:1, and amphetamine addiction outnumbered alcoholics. The nurse-patient ratio was 1:11; the doctor-patient ratio 1:62. The average age of patients was 40.1 years, and the average length of hospitalization was 8 years.

In 1959 some 785 patients received pharmacotherapy; 52 received electroshock therapy; 10 lobotomy; and only 140 received no specified therapy. There were 229 admissions and 206 discharges of whom 135 were improved. Dr. Herbert Spiegel of our group visited a private mental hospital for Buddhist monks where he found a religious contemplative "Zen School" of psychotherapy very effective for neuroses in an open voluntary institutional setting.

After pleasure tours of Kyoto, Nara and Nikko we flew to Hongkong. Here Dr. Yap of the University Mental Hospital proudly showed us a colorful, new 500 bed mental hospital recently opened in the new territories, 15 miles from the University, across the picturesque bay. This institution was superbly but functionally furnished and attractively designed. The Chinese Medical Society gave a reception at the home of its President, Dr. Chuing, which crowned our pleasure in the visit to what could well be called the most beautiful port in the world.

The scientific program of our hosts showed a far higher incidence of depressive reactions admitted here (20%) than in Japan (0.7%). Acute confusional insanity (35%) was the largest group of admissions, similar to our "acute organic brain syndrome." Here opium addiction was an admitted social problem but led to few mental hospital admissions. The poverty of refugees, overcrowding in the city, and inadequacy of educational facilities are major problems of even greater importance.

Five days later, after a brief visit to Portuguese Macau, we flew on to Bangkok. Here we were in the Venice of the East, a colorful metropolis full of gilded temple towers, with as great an auto traffic problem on land as boat traffic congestion on the river and canals.

We visited the Prosat Hospital opened in 1957 for the care of non-psychiatric nervous and mental disorders. Here the Director, Dr. Prasop Ratanakorn, arranged our joint scientific meeting after a tour of this very modern hospital and a most beautiful garden and auditorium. At the reception afterwards we learned that a high proportion of the younger native trained physicians are women. The Director of one of the three provincial mental hospitals was a young woman under 35 years of age. The population is quite animistic in its concepts, placing a tiny house "for the spirits" at a corner of the yard to "protect" the occupants of the main house, but the physicians have had good training and are working hard to educate as well as treat the community. The admissions to mental hospitals here are similar to those in Japan except a somewhat higher proportion of depressions (10%) are cared for and the closed ward hospitals have a low proportion of disorders due to aging. One small

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Report of Eastern (U.S.A.) Psychiatric Research Association 1960 Round-the-World Tour.

Read at a meeting of the Eastern Psychiatric Research Association Feb. 1961.

(100 bed) home for the aged with no relatives was considered adequate for this country of 20 million.

We then flew to New Delhi, capital of divided India, a city of contrasts, farmyard beasts in the main streets but jet planes overhead and an air conditioned hotel not far from a girls' high school housed in tents. Our scientific program was presented at the large Irwin Municipal Hospital. The discussion offered by our hosts was of a high order. The best appeared to be from those who had journeyed the farthest, Dr. Lalkaka of Bombay and others from Bombay and Agra. We were told that Delhi, a city of nearly two million, had no mental hospital near enough for us to make a visit.

Half of our group flew to Kashmir to avoid the oppressive August heat. There we were pleased to find in Srinigar, a small (50,000) city of predominantly Moslem textile workers, a medical school and a 200-bed mental hospital newly organized by the one psychiatrist of this region below the Western Himalayas, Dr. Khushu. He used electroconvulsive therapy freely in manic depressive and involutional reactions, employing muscle relaxants. Reserpine was little used here though it originated in India, as it too often led to depression. Thorazine and Ritalin were the commonly used tranquilizer and stimulant drugs. He had a group on psophglactic monthly ECT. In this area asthma was common and the Indian doctors were eager to learn what methods of treatment of the emotional component we advocated in this and other psychophysiologic disorders.

In early August we proceeded to Jerusalem via Teheran and Tel Aviv. Dr. Winnik had a well organized joint program ready at the auditorium of the Hebrew University Medical College. The papers presented by his colleagues were excellent and would have pleased the most sophisticated American professional audience. Psychiatry in Israel today is certainly on a par with the best we point to with pride along our Eastern Seaboard. Here psychoanalysis and group therapy are well advanced in marked contrast to the countries previously visited.

On leaving the tour group, I proceeded to Istanbul where I visited the 3,500 bed Bakeka Government Nervous & Mental Hospital on the outskirts. Istanbul has a small French (private) Mental Hospital and a 100 bed University Psychiatric Clinic for teaching, but the bulk (6,000 in 1958) of psychotic admissions come to Bakeka. About 80% of admissions are discharged back to their homes in a few months. Schizophrenia predominates, but 20% are depressions. Electroshock is widely used but without any muscle relaxant and with no apparent complications. Insulin coma treatment is used for the schizophrenics not responding to ECT. I observed nurses in the operating room and in the neurosurgical ward only, but all wards were quiet and clean and patients were clothed and well treated, though in locked compounds. Power laundry equipment had given out several years ago and its replacement had proved impossible though considered the most urgent need by the Director, Dr. Farouk Bayulkem. Salaries are too low to recruit needed nurses. Medical service in all specialties is offered to the surrounding communities by the outpatient clinic housed on the ground floor of the neurological hospital building.

Our next stop was Athens. Here I visited the Dromokaition Clinic, a private 880 bed mental hospital of which Mr. Myradakis is the Administrator. His staff contained a well trained group of doctors, several educated in the United States. There was no nurse shortage and the ratio of graduate nurses to patients was high, 1:6. About one-third of the patients are free to leave the grounds at will. The activity program was excellent. Patient government, patient newspaper, group and individual psychotherapy, occupational therapy, farm work therapy, a school for illiterates, outdoor sports and theater were in operation as well as electroshock and pharmacotherapy. All this was available at $3.00 per day.

The 600 indigent government supported patients cost the taxpayer $1.50 a day. The excellent dairy and farm production apparently helped keep down costs. The improvement and discharge rate was excellent for the chronic type of admissions received here. The liberal nurse's salary and availability of trained personnel appeared the key to their remarkable success.

In conclusion I would report that only in Israel is analytic psychotherapy on a par with that available along the Eastern Seaboard of the United States. The hospital visited in Greece is on a par with the best of our mental hospitals of comparable size. Psychiatry is largely intramural institutional psychiatry in all the countries visited. Training of psychiatrists is not yet standardized and well organized though beginnings have been made. In all the countries visited the leaders in psychiatry have had good training but are handicapped by inadequate government support. Patient care everywhere is above what was average in the United States 30 years ago and is as good as that offered in our own backward areas.

Anti-Psychotic Spectrum of Proketazine

ANTHONY SAINZ, M.D.

The report of Proketazine is intended to be purely clinical, shorn of any but the most essential statistics. Data concerning the chemistry of the drug, human pharmacology, toxicology and a detailed statistical analysis of results in controlled studies involving 809 patients have been presented elsewhere.[1] Our basic data may be summarized as follows: Proketazine (carphenazine) is a phenothiazine derivative containing a perpenyl side-chain and a piperazine-propyl prosthetic group . This type of compound has, in our experience, shown the most marked effect in the treatment of chronic types of schizophrenias. Of different compounds studied to date, Proketazine has evidenced this property to a greater degree than previous drugs.

TABLE I

Therapeutic Effect of Various Phenothiazines in Chronic Schizophrenias

Chlorpromazine	5%
Fluphenazine	18%
Carphenazine	30%
Controls (Untreated)	2%

Although this drug has varying degrees of usefulness in a number of psychiatric conditions, according to our data, its maximum usefulness is in the chronic schizophrenias; its spectrum analysis will be restricted to such patients.

Two forms of the drug were studied: the hydrochloride and the dimaleate. The latter is preferred as having shown more even absorption, more consistent blood-levels—with consequent diminution of the hit-and-run effect—and less side-effects than the former, both in oral and injectable forms. All references will be to this salt.

The research design employed involved the use of exogenous and endogenous controls and application of our triple-blind technique. Psychiatric changes were evaluated by means of the Marcy Psychiatric Rating Scale and results were statistically analyzed.

The sample reported on consisted of chronic schizophrenics, and was as homogeneous as possible; all patients included in this study had shown, for at least three years prior to evaluation, dereistic or more grossly disturbed thinking, impairment of abstract concept formation, partial or more severe loss of reality contact and affective dullness, fixity or inappropriateness. All had received prior intensive treatment with one or more forms of shock treatment or phrenopraxic drug therapy, and all received, for three months at least prior to the start of this study, comprehensive occupational and recreational therapies. Early placebo reactors were culled by means of our placebo-exclusion technique, so the sample studied contained only presumed non-placebo reactors. How necessary these precautions were may be seen by comparing results of administering different drugs to groups of unscreened patients (patients selected randomly, on the basis of length of continuous hospitalization three years or more and similar objective mental characteristics, but without placebo or other control procedures) and to equal percentage groups of our controlled study groups:

TABLE II

Therapeutic Results

Comparison of Controlled and Unscreened Patient Populations

(Weighed on % Basis)

	Unscreened %	Controlled %
Chlorpromazine	24	5
Mepazine	32	9
Fluphenazine	42	18
Carphenazine	51	30

All chronic schizophrenics.

The results in our controlled study group showed that 19.7% of all types of chronic schizophrenics showed either total or partial remission of objective signs, 31 patients having been discharged so far and 44 awaiting placement procedure completion. Pa-

From Marcy State Hospital, Marcy, New York.

Read at a meeting of Eastern Psychiatric Research Assn., Feb. 2, 1961.

tients who showed clearly measurable improvement, i.e.: loss of secondary psychotic signs and superficially unobservable, but discoverable, primary signs formed a contingent that increased the weighted measurable satisfactory results to the level of 30%. Those patients in whom ostensible improvement could not be satisfactorily measured were not rated as showing improvement whatsoever. Four per cent became definitely worse.

Close study disclosed that the majority (96%) of the improvements sprung from chronic schizophrenics of a particular type, and that 100% of those who became worse also possessed highly identifiable characteristics. The former almost uniformly manifested marked autism, lethargy, catatonic and anergic manifestations, poor motivation and minimum overall energy levels; they were not necessarily, however, nonreactive, and all classic subtypes, i.e., catatonics, hebephrenics, paranoids, etc., were included. Since their low energy expenditure was the principal characteristic of this group, and the literature fails to reveal this specific syndrome, we have dubbed this group "hypodynamic." The latter type presented, obversely, evident but disjointed motivation, projection, frequent psychomotor components and high energy levels. We have dubbed this group "hyperdynamic."

The following two case histories illustrate these types:

Typical hypodynamic schizophrenic:

W.H.M., white, 34-year-old male. No siblings. IQ 162 (tested at college, age 20). Prepsychotic personality: quiet, self-effacing, humorous, a good mixer, with many friends, popular, but a follower, not a leader. Not inclined to sports. Several girl friends. Married. On completion of engineering degree in electronics, joined large firm as radar technician and designer (thus deferred from immediate draft). Married life compatible. One son, now 9 years old. Ten years ago began having "moody" spells, two years later after short period of irritability at home and work became "depressed," had two or three fainting spells, complained of "losing his thoughts." Was admitted to private hospital and soon transferred to Marcy State Hospital (in 1953) in catatonic stupor. Moderate improvement after ECT with relapse into catatonia after two months. Following sixty-nine deep insulin comas was ambulatory and in partial contact for six months, then relapsed. No change on reserpine, partial improvement on chlorpromazine, but relapsed into catatonic state from 1957 to 1959. Early in this last year, following phenyltoloxamine injections, had a dramatic improvement which lasted two months. Prior to this he had not responded to ECT, prochlorperazine or trifluoperazine, and, for the last three months of 1958, required tube-feedings about twice a week. He showed waxy flexibility and was practically non-responsive. Placed on injectable carphenazine in August 1959, he soon became able to feed himself under supervision and take medication orally. His therapeutic dose was established as 200 mg. q.i.d., at which level he developed extrapyramidal manifestations controlled by ethopropazine. Random administration of placebos showed correlation of psychic improvement with carphenazine. By November 1959 patient was fully ambulatory, partially motivated and had an honor card; his reality contact improved to the point that he was allowed to go home by himself, by bus, from Marcy to Albany, his residence. Early in 1960 he was put to work in the electronic laboratory of the Marcy Division of Research. Psychological testing in June 1960 showed IQ 154 and only residual schizophrenic indicators in the Rohrschach and TAT. Is at present enrolled in college for refresher courses in electronics and has been offered a position as instructor in a regional college. His maintenance dose is 75 mg. carphenazine q.i.d. Ethopropazine is no longer needed.

Typical hyperdynamic schizophrenic:

D.G.L., white, 26-year-old single male. No siblings. Good mixer, jolly, a leader in entertainment before psychotic breakdown in 1950, characterized by persecutory delusion, some hallucinosis and many compulsions. Apparently complete remission after ICT. Graduated from high school and went to work, but in 1955 began expressing paranoid delusions of bizarre nature. Reality contact decreased and compulsions increased proportionately until he became unable to work in 1956, when he was hospitalized at Marcy State Hospital. Continued delusional, compulsive, overactive and in poor contact—with few episodes of brooding—in spite of additional ECT, ICT, chlorpromazine and prochlorperazine until January 1960 when carphenazine was administered under usual investigational controlled technique, both orally and parenterally, randomly alternated with analogous placebos. In each case of carphenazine administration he became progressively more restless, delusional and, to a remarkable degree, compulsive. He did not exhibit side-effects at any dosage, but psychotic activation became evident after a week on doses as low as 25 mg. q.i.d.

The data, thus far, from a therapeutic standpoint, shows this particular drug is not especially a "tranquilizer," although it has

some somnigenic side-effects. Although a few of our hyperdynamic schizophrenics have eventually improved on carphenazine, one must conclude, that this occurs infrequently and that the drug is best employed as a motivational, activating antipsychotic drug, and not for sedation or "tranquilization." As we have described elsewhere, it is of considerable interest that fluphenazine shows marked activity in hyperdynamic patients, and far less in those where carphenazine is effective.

Carphenazine has not shown either liver damage or impairment of homopoietic function. Doses as high as 800 mg. q.i.d. for two months have been given without ill-effects. It does not impair antibody mechanisms and need not be withdrawn during intercurrent infections. Of verifiable side-effects, somnigenic action is the most frequent, with CNS manifestations following, and postural hypotension, constipation, amenorrhea and dermatitis occurring infrequently.

Because of their characteristics, and the need for specific measures, CNS reactions require special description. Extrapyramidal symptoms may occur with high doses (above 200 mg. OD). The incidence is about 8% and most present typical rigidity and facial stiffness. Akathisic manifestations are rare but may be seen in patients sensitized to other phenothiazines. These extrapyramidal symptoms respond to concomitant antiparkinsonian drugs.

We have isolated a special form of CNS reaction which we termed "capsular," signifying our feeling that these symptoms were due to centroencephalic, but not central-nuclei type, disturbances. The "capsular" syndrome is characterized by intense subjective discomfort, tension, agitation, insomnia, and autonomic disturbances such as pallor, sweating and cold extremities without hypotension or pulse disturbances. Capsular reactions, contrary to extrapyramidal ones, occur predominantly at low doses, sometimes minimal ones, and do not respond, or respond very poorly, to antiparkinsonian drugs. They yield readily to oral or parenteral caffeine, and, most intriguingly, disappear spontaneously after a few weeks.

Gradual and progressive administration of carphenazine is the answer to avoiding the majority of side-effects. At present we strongly favor the administration of 12.5 mg. to 25 mg. q.i.d. as a starter, this dose being increased every two or three weeks by 12.5 mg. to 25 mg. per dose. After 50 mg. q.i.d. has been reached, dosage may be doubled or increased by 550 mg./dose increments. The minimum effective dose (MED) is 75 mg. OD; the average therapeutic dose (ATD) is 150 mg. OD, and the maximum useful dose (MUD) 600 mg. OD, fractionally administered preferably q.i.d.

One patient, a 43-year-old schizophrenic, attempted suicide with this drug. He ingested 5 gm. of carphenazine. There was slight emesis but most of the drug was absorbed. Blood pressure 64/30, pulse thready at 140 ppm. Caffeine-sodium benzoate was administered q. 3 h. i.m. at a dose of 15 grains initially and 7½ grains subsequently. Air passages were kept clear. Recovery was completed in 48 hours. Caffeine is the best antidote presently available.

Summary

Controlled clinical evaluation of 809 patients shows Proketazine (carphenazine) to be a very effective drug for a particular type of chronic schizophrenia, dubbed "hypodynamic," which is described. The favorable therapeutic result in the general chronic schizophrenic group is significantly larger and more clear-cut than with other phenothiazines. Side effects were not a major problem. A special type of CNS reaction is described. Toxicity was not encountered. Drug control of side effects and antidotes is described, and a practical method of administration, with comprehensive and illustrative dosage ranges is suggested.

Discussion of Paper on Proketazine

JAMES A. PAGE, M.B.

In assessing the results of a particular study on a new agent, it may be useful to compare these findings with an analysis of the whole data. During the course of the investigations carried out on carphenazine, numerous researchers studied the compound in several different clinical situations and employed a variety of experimental technics to arrive at their individual conclusions.

The research program, both basic and applied, concerned with development of carphenazine, had been directed toward discovering a compound of greatest utility in the treatment of "hard core" schizophrenic patients. It was felt that the old medical adage—that optimal therapeutic utility need not be attended by high side reactivity—held true in relation to the phenothiazine compounds. Ideally, an ataractic agent of the phenothiazine series should exert a therapeutic action of optimum intensity in a dosage associated with an absolute minimum of side effects. The whole development of the phenothiazine derivatives amply demonstrates that research in this area has been directed toward such an objective.

Chlorpromazine was the first of the series to be widely employed in the management of psychosis. It had its disadvantages, which consisted not only of extrapyramidal side effects but also toxicity. Toxicity, specifically the production of jaundice and agranulocytosis, appeared to be unrelated to dosage. Chlorpromazine was essentially sedative in nature, and relatively large milligram dosages were required to obtain optimal effects in the management of schizophrenia.

The advent of the piperazinyl derivatives of phenothiazine afforded higher potency compounds, as measured by milligrams of raw material required to produce a therapeutic effect, with less sedation and very low toxicity. However, such changes were not obtained without price; namely, increased incidence of extrapyramidal reactions, particularly a commoner occurrence of dystonic effects, which in some cases were fatal and in all instances were unpleasant.

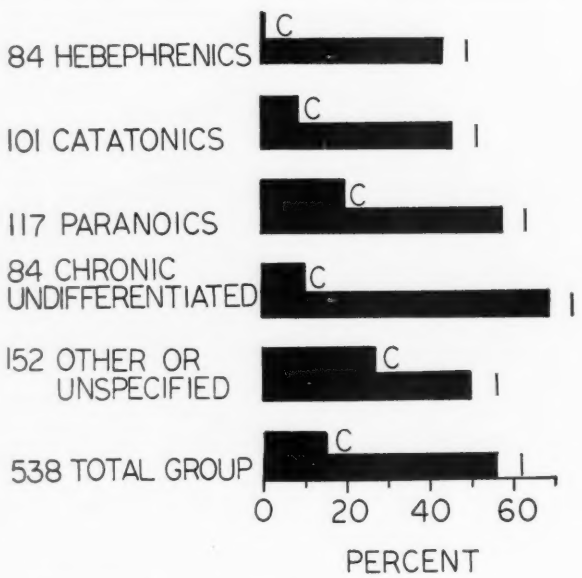
The studies of carphenazine have been directed primarily toward management of those hapless individuals who form the major part of the institutionalized population—the chronic, regressed schizophrenics. In these studies schizophrenia was defined as chronic if the patient exhibited continuous overt symptomatology with regression, withdrawal, mutism, apathy, bizarre posturing, seclusiveness, blocking of speech, illogical thinking, delusions or hallucinations of more than three years' duration. Included in some of these studies, of course, were chronic schizophrenics who were experiencing an acute exacerbation of their illness, as well as some acute schizophrenics suffering a primary breakdown.

Investigators were encouraged to code their patients, whenever possible, according to the new nomenclature recommended by the *Diagnostic and Statistical Manual of Mental Disorders*, published by the American Psychiatric Association in 1952. From the individual case data submitted, the following total subgroups of chronic schizophrenic reactions were included:

Hebephrenic	87
Catatonic	108
Paranoid	157
Chronic undifferentiated	107
Unspecified	153
Total patients	612

Of these patients, 538 met the criteria for chronic regressed schizophrenia of grade 3 or grade 4 type. It is well to remember, in considering the results of treatment with carphenazine, that this group represents the hard core of the population in our state mental institutions. Many of them have received numerous drugs in the past with little or no benefit, and certainly without obtaining a "social remission."

Figure 1 shows the overall clinical response in this group, as well as the percentages in whom a



I—Improved.
C—Convalescent or Discharged.

Fig. 1. Response of chronic regressed schizophrenics to Carphenazine.

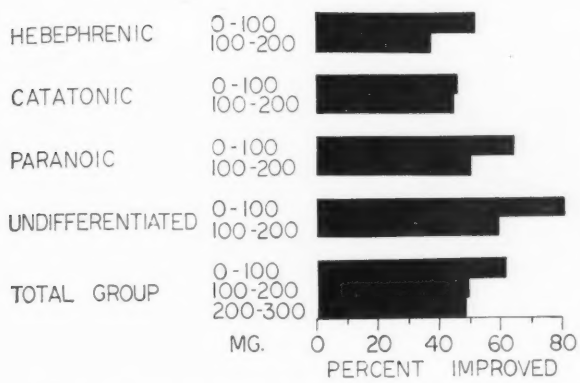


Fig. 2. Effect of mean daily dose of Carphenazine on response of chronic schizophrenics.

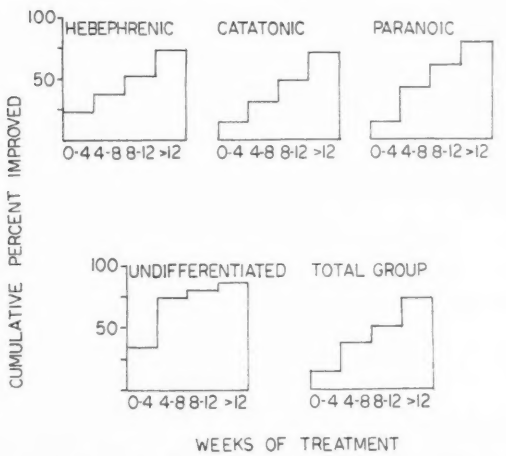


Fig. 3. Effect of duration of treatment with Carphenazine on per cent of chronic schizophrenics improved.

sufficiently favorable therapeutic response had been obtained to merit consideration for discharge, when possible, or convalescent care. Of particular interest is the pronounced change shown in 50 per cent of the paranoid, chronic undifferentiated and unspecified groups. This suggests that the unspecified group contained a number of paranoid and chronic undifferentiated schizophrenics.

An analysis of the average effective daily dosage of carphenazine in this patient population (Figure 2) shows that the average dosage lies between 100 and 150 mg. a day. Some of the patients did receive doses as high as 200 mg. four times a day. The significance of the fact that the *average* daily dose is much lower than the *high level* dose—800 mg. a day—is understood when the response to therapy over a prolonged period of medication and the occurrence of extrapyramidal effects are considered.

Optimal results of therapy with carphenazine in this group of patients will not be obtained unless treatment is continued for at least twelve weeks. The exception is the group of patients who have chronic undifferentiated schizophrenia (Figure 3).

An analysis of the percentage incidence of response to the drug in relation to sex and to side effects (Figure 4) indicates that a therapeutic response occurred in a higher percentage of female than in male patients. This coincides with the experience in all past investigations of other phenothiazine compounds.

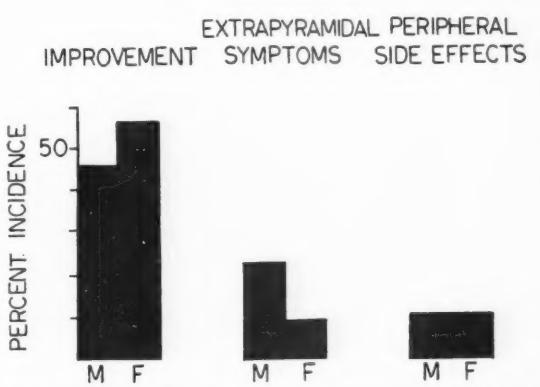


Fig. 4. Sex differences in response and incidence of side effects.

Extrapyramidal reactions occurred in 13 per cent of the total group. The higher incidence of extrapyramidal symptoms in the male population is unusual and is statistically significant. The higher percentage of therapeutic response coupled with a lower incidence of extrapyramidal symptoms in the female patients tends to support Goldman's findings in his presentation at the symposium in Montreal on "Neuroleptics and Extrapyramidal Effects."* Using discharge rates as his criteria, Goldman demonstrated that no higher rate of improvement was obtained with any phenothiazine agent in the patients who exhibited extrapyramidal symptoms during the course of treatment than in those who did not.

Peripheral side effects included: drowsiness or dizziness, weakness or faintness; agitation, assaultiveness, anxiety, restlessness, insomnia, increased tension; anorexia, nausea, vomiting and other gastrointestinal disturbances; puffy eyes, mild hypotension, blurred vision, dry mouth, and rash. These occurred in 10 per cent. It is of interest that the incidence of such reactions was the same in both male and female patients.

*Third World Congress of Psychiatry, Montreal, Canada, June 4-10, 1961, held under the auspices of the Canadian Psychiatric Assn. and McGill University.

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